THE UNIVERSITY RECORD

University of Florida Undergraduate Catalog

1982 • 1983

Now that you have the University of Florida's undergraduate catalog, you might like help in using it. According to Webster, a catalog is a complete enumeration of things arranged systematically with descriptive detail. But to find exactly what you want to know it helps to know the system.

This undergraduate catalog is organized into three main sections. The first explains the University administration as it relates to the student; the second presents a description of the academic units, and the third section lists the course descriptions. Other information is provided including a calendar of critical dates at the front and a listing of faculty and administrators in the back. An index is placed at the end of the catalog.

In addition to general information about the University as a whole, the first section has specific details about admission, expenses, housing, academic regulations and student life.

A student at the University registers each semester in one of 19 colleges or schools. The second section of the catalog explains the program in each of these academic units. Major fields of study, degrees offered, requirements for admission or graduation for this unit and other pertinent information are located here.

The second section should help the student determine an academic program for a bachelor's degree. Here you learn about the individual departments of the colleges, something of the philosophy on which the curriculum is based and the career or competence toward which this training is aimed.

The third section lists the actual courses and their descriptions. This part is set up alphabetically by departments of instruction. It tells you which undergraduate courses will be taught in each of the semesters. This section is partially in a code (course prefix and number) which identifies the statewide course number and the University of Florida designation.

For example, ZOO 2014 is shorthand for the course Principles of Animal Biology. Following the title are the letters F, S, SS meaning it is offered in each of the semesters—Fall, Spring and Summer. The course carries four credit hours. It lists as prerequisites ZOO 2013C (Introductory Zoology Laboratory) and CHM 2042 and CHM 2042L (General Chemistry), meaning they must be completed satisfactorily before registration for ZOO 2014. A separate schedule of courses is printed each semester and used in conjunction with the catalog during registration.

FOR ANSWERS TO THESE QUESTIONS:	
"Could I be admitted?"	For admission requirements, refer to Admission section in general section and to your specific college section.
"How much does it cost?"	See Expenses in general section.
"Where can I live?"	Check Housing section.
"When do classes start? What about vacations?"	See University calendar and critical dates in front section.
"What programs are available? What courses can I take?"	Look at descriptions of colleges in second section. Check requirements for specific courses.
"Where can I find out about grades, probation and suspension?"	See Academic Regulations, general section.
"What could I major in and what degrees are offered?"	See college descriptions.
"What about financial aid?"	See Student Affairs in general section.
"What is special about the University of Florida?"	See A Complete University page ix.

THE UNIVERSITY RECORD of the UNIVERSITY OF FLORIDA

The Undergraduate Catalog has been adopted as a rule of the University pursuant to the provisions of Chapter 120 of the Florida Statute. Addenda to the University Record Series, if any, are available upon request to the Office of the Registrar.

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This public document was promulgated at a total cost of $46,408 or 93 cents per copy to inform students, parents, University faculty, and other interested persons of degree programs and curricula offerings at the University of Florida.

CALENDAR for 1982

JULY

S	M	T	W	T	F	S
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4	5	6	7	8	9	10
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AUGUST

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SEPTEMBER

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OCTOBER

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CALENDAR for 1983

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NOVEMBER

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DECEMBER

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18	19	20	21	22	23	24
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APPLICATION DEADLINES

The application deadlines indicated below apply to *former* University of Florida students, *currently enrolled* University of Florida students, or new students seeking admission to the University of Florida for the first time.

The application deadlines refer to completion of *all* application procedures including receipt of all required credentials and the completion of departmental requirements, if any. Applications for admission to limited access programs received after the deadline may be returned unprocessed. Applications for admission to other programs received after the deadline will be processed *only* on a space *available* basis. Applications for admission to certain programs will be considered *only* for the term(s) indicated below.

	1982 FALL	1983 SPRING	1983 SUMMER	
			TERM A	TERM B
LOWER DIVISION				
Beginning Freshmen	March 1	November 5	March 1	April 29
Freshman & Sophomore Transfers	June 25	November 5	March 1	April 29
UPPER DIVISION				
Juniors, Seniors & Postbaccalaureate				
Architecture	February 1	November 5	March 1	April 29
Building Construction	March 1	October 1	NA	NA
Clinical & Community Dietetics	March 15	NA	NA	NA
Interior Design	May 12	November 5	March 1	April 29
Graphic Design	April 1	NA	NA	NA
Landscape Architecture	May 12	November 5	March 1	April 29
Medical Technology	March 15	NA	NA	NA
Nursing	March 30	NA	NA	NA
Occupational Therapy	March 15	NA	NA	NA
Pharmacy	March 1	NA	NA	NA
Physical Therapy	March 15	NA	NA	NA
All Other Programs	June 25	November 5	March 1	April 29
GRADUATE SCHOOL				
Clinical Psychology	February 15	NA	NA	NA
Master of Law in Taxation	June 1	NA	NA	NA
*All Other Graduate Programs, if available	June 25	November 5	March 1	April 29

*NOTE: Some departments have found it necessary to establish deadlines for receipt of applications and all supporting records that are earlier than the deadline established by the Graduate School. All graduate applicants are advised to check with the appropriate department regarding application deadlines.

PROFESSIONAL SCHOOLS

Applicants for admission to the professional schools of Law, Dentistry, Medicine or Veterinary Medicine are advised to check directly with the school regarding application deadlines.

OTHER CRITICAL DATES

	1982 FALL	1983 SPRING	1983 SUMMER	
			TERM A	TERM B
Registration	August 16-19	January 3-4	May 5	June 23
Classes Begin	August 23	January 6	May 9	June 27
Classes End	December 10	April 22	June 17	August 5
Final Examinations	December 11-18	April 23-30	In Class	In Class
Commencement	December 18	April 30	None	August 6
Grades Due (Graduating Seniors)	December 16	April 28	June 16	August 4
Grades Due (All)	December 20	May 2	June 20	August 8

UNIVERSITY OF FLORIDA CALENDAR 1982-83 FALL SEMESTER

1982

February 1, Monday, 4:00 p.m.

Deadline for receipt of application and completion of *all* application procedures, including departmental requirements, and receipt of official transcripts for Architecture.

February 15, Monday, 4:00 p.m.

Deadline for receipt of application and completion of *all* application procedures, including departmental requirements, and receipt of official transcripts for graduate program in Clinical Psychology.

March 1, Monday, 4:00 p.m.

Deadline for receipt of application and completion of *all* application procedures, including receipt of official transcripts for Beginning Freshmen. Applications received after this date may be considered on a space available basis.

Deadline for receipt of application and completion of *all* application procedures, including departmental requirements, and receipt of official transcripts for Building Construction and Pharmacy.

March 15, Monday, 4:00 p.m.

Deadline for receipt of application and completion of *all* application procedures, including departmental requirements, and receipt of official transcripts for Clinical & Community Dietetics, Medical Technology, Occupational Therapy, and Physical Therapy.

March 30, Tuesday, 4:00 p.m.

Deadline for receipt of application and completion of *all* applications procedures, including departmental requirements, and receipt of official transcripts for Nursing.

University Calendar

April 1, Thursday, 4:00 p.m.

Deadline for receipt of application and completion of *all* application procedures, including departmental requirements, and receipt of official transcripts for Graphic Design.

May 12, Wednesday, 4:00 p.m

Deadline for receipt of application and completion of *all* application procedures, including departmental requirements, and receipt of official transcripts for Interior Design and Landscape Architecture.

June 1, Tuesday, 4:00 p.m.

Deadline for receipt of application and completion of *all* application procedures, including departmental requirements, and receipt of official transcripts for Master of Law in Taxation program.

June 25, Friday, 4:00 p.m.

Deadline for receipt of application and completion of *all* application procedures, including departmental requirements, and receipt of official transcripts for all undergraduate and graduate programs except those listed with an earlier deadline date under the preceeding section APPLICATION DEADLINES.

Last day for students who have previously attended the University of Florida to apply for a registration appointment for the Fall term.

Last day to apply to change classification for the Fall term, except for programs with an earlier deadline as listed under the preceeding section APPLICATION DEADLINES.

August 16-19 Monday-Thursday

Orientation and registration according to appointments assigned. No one permitted to start registration on Thursday, August 19, after 3:00 p.m.

August 20, Friday

Drop/Add begins. Late registration begins. All students registering late subject to $25 late fee.

August 23, Monday—Classes begin.

August 27, Friday, 4:00 p.m.

Last day for completing late registration for Fall Semester. No one permitted to start registration on Friday, August 27 after 3:00 p.m.

Last day for Drop/Add and for changing sections. Students liable for fees for all hours for which registered. Any change after this date will be according to individual college petition procedures until date WF's are assigned. A W symbol will be assigned for courses dropped after this date and prior to the date WF's are assigned.

Last day student may withdraw from the University and receive full refund of fees unless withdrawal is for medical or military reasons. Students who withdraw from the University after this date for medical or military reasons may apply for a refund of fees less mandatory fees. Students who withdraw from the University after this date and until Sept. 17 may receive a 25% refund of course fees less mandatory fees.

Last day for filing S-U option card in Registrar's Office.

August 30, Monday

All undeferred fee payments are due in full. All waivers must be established. Anyone who has not paid fees or arranged to pay fees with Student Financial Services by this date will be subject to a $25 late payment charge.

Last day for filing address change in Registrar's Office, if not living in residence halls, in order to receive fee statement, if applicable, at new address.

September 6, Monday—Labor Day—Classes suspended.

September 10, Friday, 4:00 p.m.

Last day for filing degree application at the Registrar's Office for a degree to be conferred at the end of the Fall Semester.

Last day to apply with the Registrar for an Associate of Arts certificate to be awarded at the end of the semester

September 17, Friday, 4:00 p.m.

Last day for changing any grade assigned in the preceding term, except in a modular course. If not made up, grades of I or X become E.

Last day student may withdraw from the University and receive 25% refund of course fees, less mandatory fees, unless withdrawal is for medical or military reasons.

October 15-16, Friday-Saturday—Homecoming—All classes suspended Friday.

November 11, Thursday—Veterans Day—Classes suspended.

November 24, Wednesday, 4:00 p.m.

Last day for dropping a course by college petition. No drops permitted after this date without receiving WF grades.

Last day for withdrawing from University without receiving failing grades in all courses. A W symbol will be assigned for courses from which the student withdrew.

November 25-26, Thursday-Friday—Thanksgiving—Classes suspended 10:00 p.m. November 24

November 29, Monday, 8:00 a.m.—Classes resume.

December 3, Friday, 10:00 p.m.

No examinations, class quizzes or progress tests may be given after this date and prior to the final examination period.

December 10, Friday—All classes end.

December 11, Saturday

Final examinations begin.

December 16, Thursday, 10:00 a.m.—Degree candidates' grades due.

December 17, Friday, 3:00 p.m.

Report of colleges on degree candidates due in the Office of the Registrar.

December 18, Saturday—Commencement Convocation.

December 20, Monday, 9:00 a.m.

Last day for submitting grades for Fall Semester including those given extension by Department Chairman.

UNIVERSITY OF FLORIDA CALENDAR, 1982-83 SPRING SEMESTER

1982

October 1, Friday, 4:00 p.m.

Deadline for receipt of application and completion of *all* application procedures, including departmental requirements, and receipt of official transcripts for Building Construction.

November 5, Friday, 4:00 p.m.

Deadline for receipt of application and completion of *all* application procedures including receipt of official transcripts for Beginning Freshmen. Applications received after this date may be considered on a space available basis.

Deadline for receipt of application and completion of *all* application procedures, including departmental requirements, and receipt of official transcripts for Architecture, Interior Design, and Landscape Architecture.

Deadline for receipt of application and completion of *all* application procedures, including departmental requirements, and receipt of official transcripts for all undergraduate and graduate programs except those listed with an earlier deadline date under the preceeding section APPLICATION DEADLINES.

Last day for students who have previously attended the University of Florida to apply for a registration appointment for the Spring term.

Last day to apply to change classification for the Spring term, except for programs with an earlier deadline as listed under the preceeding section APPLICATION DEADLINES.

1983

January 3-4, Monday-Tuesday

Registration according to appointments assigned. No one permitted to start registration on Tuesday, January 4, after 3:00 p.m.

January 5, Wednesday

Drop/Add begins, Late registration begins. All students registering late subject to $25 late fee.

January 6, Thursday—Classes 8egin.

January 12, Wednesday, 4:00 p.m.

Last day for completing late registration for Spring Semester No one permitted to start registration on Wednesday, January 12, after 3:00 p.m.

Last day for Drop/Add and for changing sections. Students liable for fees for all hours for which registered Any change after this date will be according to individual college petition procedures until date WF's are assigned. A W symbol will be assigned for courses dropped after this date and prior to the date WF's are assigned.

Last day student may withdraw from the University and receive full refund of fees unless withdrawal is for medical or military reasons. Students who withdraw from the University after this date for medical or military reasons may apply for a refund of fees less mandatory fees. Students who withdraw from the University after this date and until Feb. 2 may receive a 25% refund of course fees less mandatory fees.

Last day for filing S-U option card in Registrar's Office.

January 13, Thursday

All undeferred fee payments are due in full. All waivers must be established. Anyone who has not paid fees or arranged to pay fees with Student Financial Services by this date will be subject to a $25 late payment charge.

Last day for filing address change in the Registrar's Office, if not living in residence halls, in order to receive fee statement, if applicable, at new address.

January 21, Friday, 4:00 p.m.

Last day for filing degree application at the Registrar's Office for a degree to be conferred at the end of the Spring Semester.

Last day to apply with the Registrar for an Associate of Arts certificate to be awarded at the end of the semester

February 2, Wednesday, 4:00 p.m.

Last day student may withdraw from the University and receive 25% refund of course fees, less mandatory fees, unless withdrawal is for medical or military reasons.

February 4, Friday, 4:00 p.m.

Last day for changing any grade assigned in the preceding term, except in a modular course. If not made up, grades of I or X become E.

March 3-4, Thursday-Friday—Spring break.

All classes suspended Thursday and Friday.

April 8, Friday, 4:00 p.m.

Last day for dropping a course by a college petition. No drops permitted after this date without receiving WF grades.

Last day for withdrawing from University without receiving failing grades in all courses. A W symbol will be assigned for courses from which the student withdrew.

April 15, Friday, 10:00 p.m.

No examinations, class quizzes or progress tests may be given after this date and prior to the final examination period.

April 22, Friday—All classes end.

April 23, Saturday

Final examinations begin.

April 28, Thursday, 10:00 a.m.—Degree candidates' grades due

April 29, Friday, 3:00 p.m.

Report to colleges on degree candidates due in the Office of the Registrar.

April 30, Saturday—Commencement Convocation.

May 2, Monday, 9:00 a.m.

Last day for submitting grades for Spring Semester including those given extension by Department Chairman.

UNIVERSITY OF FLORIDA CALENDAR, 1982-83 SUMMER TERM A*

1983

March 1, Tuesday, 4:00 p.m.

Deadline for receipt of application and completion of *all* application procedures including receipt of official transcripts for Beginning Freshmen. Applications received after this date may be considered on a space available basis.

Deadline for receipt of application and completion of *all* application procedures, including departmental requirements, and receipt of official transcripts for Architecture, Interior Design, and Landscape Architecture.

Deadline for receipt of application and completion of *all* application procedures, including departmental requirements, and receipt of official transcripts for all undergraduate and graduate programs except those listed with an earlier deadline date under the preceding section APPLICATION DEADLINES

Last day for students who have previously attended the University of Florida to apply for a registration appointment for the Summer A term.

Last day to apply to change classification for the Summer A term, except for programs with an earlier deadline as listed under the preceeding section APPLICATION DEADLINES.

May 5, Thursday

Registration according to appointments assigned. No one permitted to start registration on Thursday, May 5, after 3:00 p.m

May 6, Friday

Drop/Add begins. Late registration begins. All students registering late subject to $25 late fee.

May 9, Monday—Classes begin.

May 11, Wednesday, 4:00 p.m.

Last day for completing late registration for Summer Term A. No one permitted to start registration on Wednesday, May 11 after 3:00 p.m

Last day for Drop/Add and for changing sections. Students liable for fees for all hours for which registered. Any change after this date will be according to individual college petition procedures until date WF's are assigned. A W symbol will be assigned for courses dropped after this date and prior to the date WF's are assigned.

Last day student may withdraw from the University and receive full refund of fees unless withdrawal is for medical or military reasons Students who withdraw after this date for medical or military reasons may apply for a refund of fees less mandatory fees. Students who withdraw from the University after this date and until May 18 may receive a 25% refund of course fees less mandatory fees.

Last day for filing S-U option card in Registrar's Office.

Last day for filing degree application at the Registrar's Office for a degree to be conferred at the end of Summer Term A, June 18, 1983

Last day to apply with the Registrar for an Associate of Arts certificate to be awarded at the end of Summer Term A, June 18, 1983.

May 12, Thursday

All undeferred fee payments are due in full. All waivers must be established. Anyone who has not paid fees or arranged to pay fees with Student Financial Services by this date will be subject to a $25 late payment charge.

Last day for filing address change in the Registrar's Office, if not living in residence halls, in order to receive fee statement, if applicable, at new address.

May 18, Wednesday, 4:00 p.m.

Last day student may withdraw from the University and receive 25% refund of course fees, less mandatory fees, unless withdrawal is for medical or military reasons.

May 30, Monday—Memorial Day—Classes suspended.

University Calendar

June 3, Friday, 4:00 p.m
Last day for changing any grade assigned in the preceding term except in a modular course. If not made up, grades of I or X become E.

June 10, Friday, 4:00 p.m.
Last day for dropping a course by college petition. No drops permitted after this date without receiving WF grades.
Last day for withdrawing from the University without receiving failing grades in all courses. A W symbol will be assigned for courses from which the student withdrew.

June 16, Thursday, 10:00 a.m. Degree candidate grades due.

June 17, Friday—All classes end. Final examinations will be held in regular class periods.

June 17, Friday, 3:00 p.m.
Report of colleges on degree candidates due in the Office of the Registrar.

June 18, Saturday—Graduation—No commencement ceremony.

June 20, Monday, 9:00 a.m.
Last day for submitting grades for Summer Term A.

UNIVERSITY OF FLORIDA CALENDAR, 1982-83 SUMMER TERM B*

1983

April 29, Friday, 4:00 p.m.
Deadline for receipt of application and completion of *all* application procedures including receipt of official transcripts for Beginning Freshmen. Applications received after this date may be considered on a space available basis.
Deadline for receipt of application and completion of *all* application procedures, including departmental requirements, and receipt of official transcripts for Architecture, Interior Design, and Landscape Architecture.
Deadline for receipt of application and completion of *all* application procedures, including departmental requirements, and receipt of official transcripts for all undergraduate and graduate programs except those listed with an earlier deadline date under the preceeding section APPLICATION DEADLINES
Last day for students who have previously attended the University of Florida to apply for a registration appointment for the Summer B term.
Last day to apply to change classification for the Summer B term, except for programs with an earlier deadlines listed under the preceeding section APPLICATION DEADLINES.

June 23, Thursday
Registration according to appointments assigned. No one permitted to start registration on Thursday, June 23, after 3:00 p.m.

June 24, Friday
Drop/Add begins, Late registration begins. All students registering late subject to $25 late fee.

June 27, Monday—Classes Begin.

June 29, Wednesday, 4:00 p.m.
Last day for completing late registration for Summer Term B. No one permitted to start registration on Wednesday, June 29, after 3:00 p.m.
Last day for Drop/Add and for changing sections. Students liable for fees for all hours for which registered. Any change after this date will be according to individual college petition procedures until date WF's are assigned. A W symbol will be assigned for courses dropped after this date and prior to the date WF's are assigned.
Last day student may withdraw from the University and receive full refund of fees unless withdrawal is for medical or military reasons. Students who withdraw after this date for medical or military reasons may apply for a refund of fees less mandatory fees. Students who withdraw from the University after this date and until July 6 may receive a 25% refund of course fees less mandatory fees.
Last day for filing S-U option card in Registrar's Office.
Last day for filing degree application at the Registrar's Office for a degree to be conferred at the end of Summer Term B, August 6, 1983.
Last day to apply with the Registrar for an Associate of Arts certificate to be awarded at the end of Summer Term B, August 6, 1983.

June 30, Thursday
All undeferred fee payments are due in full. All waivers must be established. Anyone who has not paid or arranged to pay fees with Student Financial Services by this date will be subject to a $25 late payment charge.
Last day for filing address change in Registrar's Office, if not living in residence halls, in order to receive fee statement, if applicable, at new address.

July 4, Monday—Independence Day Holiday—Classes suspended.

July 6, Wednesday, 4:00 p.m.
Last day student may withdraw from the University and receive 25% refund of course fees, less mandatory fees, unless withdrawal is for medical or military reasons.

July 29, Friday, 4:00 p.m.
Last day for dropping a course by college petition. No drops permitted after this date without receiving WF grades.
Last day for withdrawing from University without receiving failing grades in all courses. A W symbol will be assigned for courses from which the student withdrew.

August 4, Thursday, 10:00 a.m.—Degree candidates' grades due.

August 5, Friday—All classes end. Final examinations will be held in regular class periods.

August 5, Friday, 3:00 p.m.
Report of colleges on degree candidates due in the Office of the Registrar.

August 6, Saturday—Commencement

August 8, Monday, 9:00 a.m.
Last day for submitting grades for Summer Term B.

*A few selected courses, such as those requiring laboratories, may be offered which require attendance during Summer Term A and B, For these courses, classes would begin on May 9 and end on August 5. Classes will not meet for these courses June 20-24

UNIVERSITY OF FLORIDA

UF

FLORIDA'S FIRST UNIVERSITY

A COMPLETE UNIVERSITY

Florida's first — the University of Florida — is also one of America's truly distinctive universities. Along with Ohio State and the University of Minnesota, the University of Florida offers more academic programs on a single campus than any of the nation's other universities, private and public. It is also among the nation's 25 largest universities; yet its division into 20 colleges and schools, with their 140 departments, gives students the opportunity to know and work closely with most of their classmates and teachers. Its location in Florida's University City — Gainesville, dedicated from its founding to serve as a home away from home for college students — adds immeasurably to the educational and social opportunities for students.

In short, the University of Florida is a residential campus, with rich resources available because of its size, that provides a learning and living environment for the whole person: Daily contacts — in class, in clubs, between classes and in dormitories and apartments — with other students from every spectrum of society and with virtually every career goal known to humanity . . . . Daily opportunities to attend concerts, theater productions, art shows, seminars, athletic contests, lectures, and a myriad of other events featuring nationally and internationally known talents . . . Daily communications with a faculty that is comprised of some of the nation's leading scholars in their fields, working in laboratories and libraries among the best in the nation. More than 1,400 faculty members and graduate students are awarded research and training grants annually, ranking the University of Florida among the nation's top 40 research universities.

UNDERGRADUATE OPPORTUNITIES

Because it is a complete university — freshmen through professional and postdoctoral — the University of Florida offers more for its undergraduate students.

Undergraduates aspiring for graduate or professional degrees can study in libraries and laboratories equipped for almost every advanced degree offered anywhere in the world. They study alongside advanced graduate and professional students. They can begin their research as early as they desire, even as freshmen. They can receive counseling from a faculty that has been assembled from major universities in the nation and the world. The University of Florida ranks among the nation's top 25 universities whose bachelor's degree holders move into graduate programs. Its preparatory programs for admission to graduate and professional schools, are recognized by the world's leading universities.

Students desiring only bachelor's degrees can choose from 111 majors, almost all of them strengthened by correlative graduate degree programs. This means students can enrich their bachelor's degree programs with advanced courses de-

signed for both undergraduates and graduates. It also means a wider selection of course opportunities outside a student's major field of study. Above all, it means an undergraduate student pursues his studies in a complete academic atmosphere.

COSMOPOLITAN STUDENT BODY

Students attending the University of Florida come from every county in the state, every state in the nation, and last year from 99 foreign countries. Eighty-five per cent of its entering freshmen earned admission test scores above the national average. Thirty-eight per cent of the undergraduates are transfers from community and other colleges. They experience no difficulty competing academically with students who begin their work at the University of Florida. The University of Florida ranks seventh among state universities and 18th among all universities in the nation in the number of National Merit and Merit Achievement Scholars who choose to attend. But the University of Florida is not an elitist university. And it does not want to be. Ten per cent of its limited beginning freshmen spaces are held open for students who do not qualify academically for admission to a Florida state university. These students, and any others who desire, are offered special instructional programs to help them progress scholastically. These programs have the central goal of equipping students with the ability to complete their degrees.

LEADERSHIP TRAINING

Perhaps above all else, the University of Florida offers its students leadership training and experience. Its results are proven. Half of Florida's Cabinet members, in addition to the Governor, are UF graduates, as are approximately one-third of the state senators, members of the state House of Representatives, Floridians in the U.S. Congress and state Supreme Court justices. Half of ten persons named in 1978 as Florida's most influential governmental, professional and business persons had attended the University of Florida. Thousands of other Florida graduates occupy key positions in every known professional endeavor throughout the state, in the nation and in many parts of the world.

There are reasons behind the University of Florida's leadership training success. The contained campus — in a larger community whose principal focus is on the University — provides thousands of leadership opportunities. Student Government at the University of Florida is one of the nation's most independent and influential. Every college has its own student council. Almost every committee for governance of the University as a whole — and there are dozens of them — have student members. The University turns many of its activities over to students to implement. Students serve on advisory boards and councils in city and county government. Hundreds of students are employed in career-developing positions and serve internships in Gainesville area institutions. More than 200 student organizations, plus fraternities and sororities, require full slates of officers. Virtually every academic offering provides opportunity for membership in chapters of national student organizations. Churches and civic groups in the community provide special programs and opportunities just for University of Florida students. More than 500 participate in a student volunteer action organization, providing companionship and assistance to children, the elderly, the handicapped, the incarcerated, the underprivileged and the lonely in 14 separate programs. It is the largest student volunteer action group in the nation. A nationally-recognized Student Services Office offers counseling programs for dozens of special student problems — both academic and personal — as well as leadership training programs.

A FUN PLACE

And, yes, the University of Florida believes students should have fun while pursuing their degrees. First, students enjoy their studies. Ask almost any University of Florida student, "What's with you?," and the greatest chance is that he or she will respond with a comment about course work. Second, students enjoy one another. The way they live — in residence halls, apartment complexes and as a dominant population group in the larger community — guarantees that. Third, the University and the community provide recreational and social opportunities by the scores. More than 16,000 people a day use the centrally-located student union on campus. Outdoor recreational courts, pools and fields abound, not only on campus but throughout the community. More than 1,000 persons are able to engage simultaneously in eight different athletic and recreational activities in the new Stephen C. O'Connell Student Activities Center. Entertainment of every description is nightly and every weekend fare, both on the campus and in the community, which gears itself to student interests because of the preponderance of students in it. A full program of men's and women's intercollegiate athletics insures one or more major spectator games per week. More than seventy-five per cent of the Student Body participated last year on more than 1,400 intramural teams. Gainesville is in the heart of Florida's rolling woods, lakes, springs and river country. And it is equidistant — only a 90-minute drive — from the fishing and boating Gulf Coast and the swimming, surfing and beaching Atlantic Coast. Big name music stars and their bands are brought to campus for concerts almost weekly by Student Government Productions. Students themselves have numerous opportunities to perform in local music groups and stage plays, to exhibit their arts and crafts, to write for several student-operated publications and to pursue hobby interests of every description.

This, in summary, is the University of Florida, Florida's first and one of the nation's most distinctive universities. And more than anything else, a University putting the interests of the individual student ahead of anything else.

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SKIP DVORNIK
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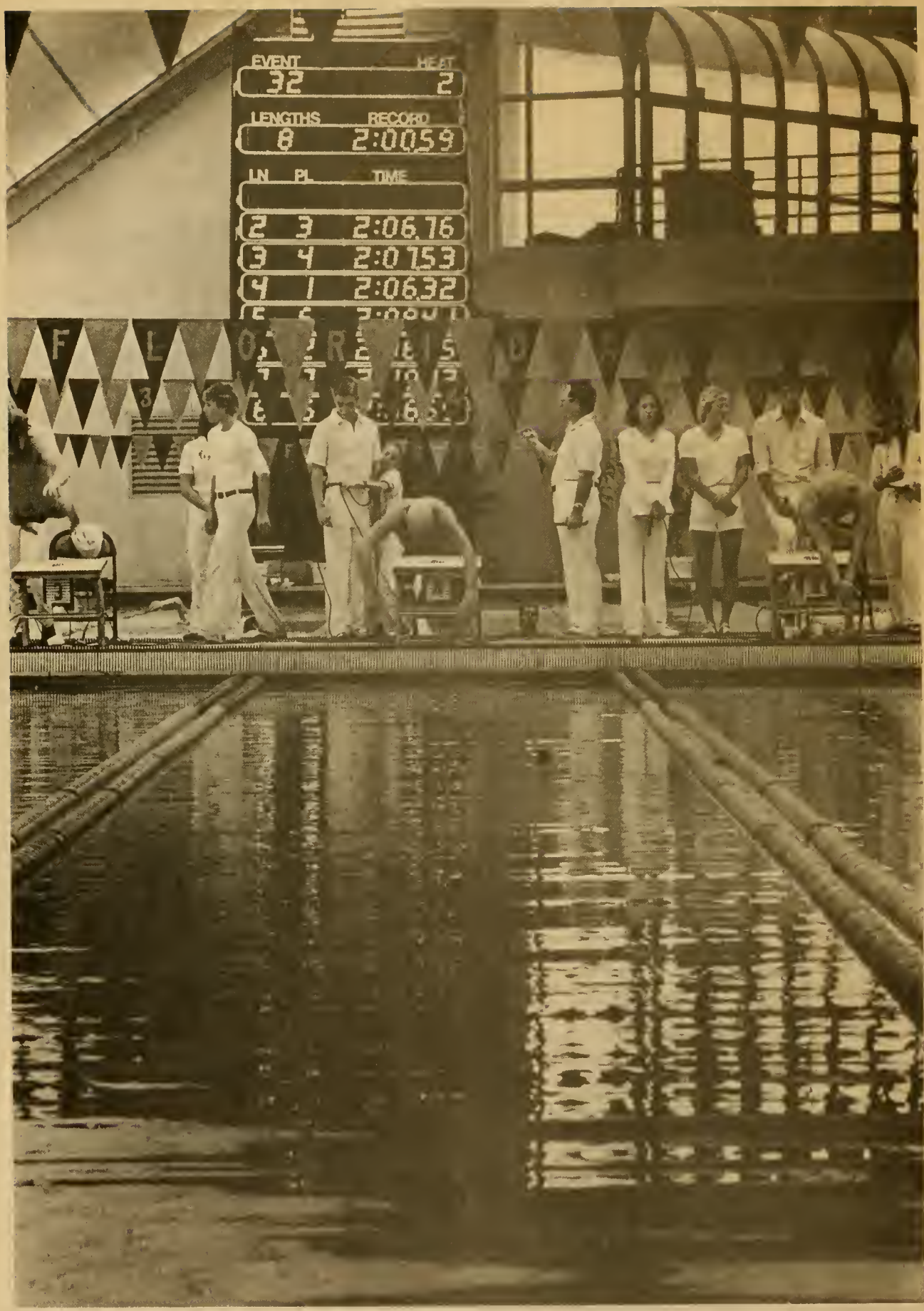
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THE UNIVERSITY OF FLORIDA CREED

1. We believe the University of Florida stands for the primacy of truth, and for the integrity of the individual, the state, and the nation.
2. We believe the University of Florida exists to serve the social, cultural, industrial, and political institutions of the state.
3. We believe the University of Florida exists to improve the quality of life of the people of Florida.
4. We believe the University of Florida must continue the two-fold task of institutions of higher learning: to wit, the task of preserving existing knowledge through teaching, and the task of developing new knowledge through research.
5. We believe that research must include pure research to advance knowledge, and applied research to seek solutions for the problems of society.
6. We believe that the University must consist of a community of scholars in which emphasis is placed on intellect, on learning and discipline, and on the sharing of knowledge.
7. We believe that the University of Florida serves well its purposes for existence because of its inclusive, and mutually supportive, programs in the arts, the humanities, the sciences, and the professions.
8. We believe the University of Florida, in order to fulfill its functions, must have talented students, distinguished faculty, a comprehensive library, adequate support personnel for its programs, and sufficient and well maintained equipment and physical plant.
9. We believe the University of Florida has an obligation to make its programs and services known to the people and to the government of the state, in order best to serve the purposes for which the University exists.
10. We believe that, by fulfilling its proper functions, the University of Florida upholds and enhances the values of society and of the nation.

The University of Florida is accredited by the Southern Association of Colleges and Schools—Commission on Colleges.

HISTORY

Florida's oldest, the University of Florida traces its beginnings to the takeover of the private Kingsbury Academy in Ocala by the state-funded East Florida Seminary in 1853. The Seminary was moved to Gainesville following the Civil War. It was consolidated with the state's land-grant Florida Agricultural College, then in Lake City, to become the University of Florida in Gainesville in 1906, with an initial enrollment of 102. Until 1947, UF was the men's school and one of only three state colleges. Others were Florida State College for Women (now FSU) and Florida A&M. Since 1947, when the student body numbered 8,177 men and 601 women, UF has grown to more than 33,000, largest in the state, alternating years with the University of Tennessee as the South's largest, 18th largest in the nation.

SETTING AND ENVIRONMENT

The University of Florida is located in Gainesville, a city of 86,929 situated in north central Florida, midway between the Atlantic Ocean and Gulf of Mexico. The city is known as an agricultural and small industrial center.

In addition to a moderate climate, Gainesville offers many other advantages to students of the University. A golf course is within easy reach of the campus, and swimming and boating accommodations are available at nearby springs and rivers. The lakes in the vicinity abound in fresh water fish, while the Atlantic Ocean and the Gulf of Mexico are within a two hours' drive. As the seat of Alachua County, the city is the focal point of diversified industrial and farming activities.

Practically every religious denomination is represented in the Gainesville area including: Presbyterian, Baptist, Lutheran, Methodist, Catholic, Episcopal, Christian, Seventh Day Adventist, Church of Christ Scientist, Church of Christ, Christian and Missionary Alliance, Advent Christian, Jewish, Church of Latter Day Saints, Church of the Nazarene, Assembly of God, Apostolic Church of Christ, Church of God, Disciples of Christ, Pentecostal Holiness, United Church of Christ, and Unitarian-Universalists. Several of these denominations maintain chapels adjacent to the campus. These include St. Augustine Chapel (Catholic Student Center), the Baptist Student Union, Wesley Foundation (Methodist Student Center), Chapel of the Incarnation (Episcopal Student Center), Church of Christ, B'nai B'rith Hillel Foundation (Jewish), the Lutheran Student Association, the Latter Day Saints (Mormon), Disciples-Presbyterian Student Center and the Society of Friends (Quaker). All the chapels carry on extensive programs of vital interest to University students.

TRANSPORTATION

A schedule of daily bus service, with connections to all points of the United States, is maintained by Southeastern Greyhound Lines and Trailways Bus System. The Regional Transit system has nine busses serving the city of Gainesville. Eastern Airlines serves Gainesville with daily flights with connections to all parts of the U.S. Charter Air and Air Florida serve all major areas of the state.

GOVERNMENT OF THE UNIVERSITY

Direct supervision over the University of Florida, its policies and affairs, is vested in the Board of Regents, a body composed of 11 citizens who are appointed by the Governor for six-year terms and one student appointed for one year, and the State Commissioner of Education. University affairs are administered by the president with the advice and assistance of the University Senate and various committees elected by the senate and appointed by the president.

ADMINISTRATIVE AFFAIRS

THE VICE PRESIDENT FOR ADMINISTRATIVE AFFAIRS is the chief business officer of the University. He is responsible for establishing policy relating to university business matters; coordinating the preparation of and control of the operating budget; collecting and disbursing funds in accordance with state statutes; managing campus security, auxiliary services and the maintenance of the physical plant and grounds; directing purchasing, the administrative computer, staff personnel and property control, and environmental health and safety.

ACADEMIC AFFAIRS

THE VICE PRESIDENT FOR ACADEMIC AFFAIRS is the chief academic officer for the University. In this capacity he supervises the allocation of resources in the academic areas, the improvement of instruction, the correlation of instructional activities, the development and improvement of research activities, the evaluation of university academic activity, and the establishment of policy with respect to employment, promotion, and tenure of the academic staff. In the absence of the President and Executive Vice President he acts with the authority and responsibility of the President.

STUDENT AFFAIRS

THE VICE PRESIDENT FOR STUDENT AFFAIRS is the chief student affairs officer for the university. The office is responsible for administering the various programs and departments which deliver out-of-class services to students. It is also responsible for establishing policy relating to student affairs matters. Activities in this area include orientation, career and cooperative education, placement, health services,

recreation, financial aid, housing, individual and group counseling, student organizations, the Reitz Union, judicial programs and leadership training. A complete section on Student Affairs follows in this catalog.

SEMESTER SYSTEM

The University of Florida operates on a semester system. The academic year begins in August and ends the following August. During this period there are two semesters averaging 15 weeks of instruction plus a week of final examinations and two six weeks summer terms. Semesters begin in August and January with the first summer term beginning in May and the second beginning in June. In most colleges of the University courses are scheduled in such a way that a student may enter in any term and proceed normally through an appropriate sequence of courses. Consult the individual college sections of the catalog to determine programs that begin only in designated terms.

COLLEGES AND SCHOOLS

THE SCHOOL OF ACCOUNTING offers curricula leading to the degree of Bachelor of Science in Accounting. The bachelor's degree may be completed within the five year program leading to the degree Master of Accounting. See School of Accounting, page 71.

THE COLLEGE OF AGRICULTURE, a unit of the Institute of Food and Agricultural Sciences, offers curricula in all of the major fields of agriculture and grants the degree of Bachelor of Science in Agriculture. See Page 75.

THE COLLEGE OF ARCHITECTURE offers curricula in architecture, interior design, landscape architecture, urban and regional planning and building construction. It confers the degrees of Bachelor of Design, Bachelor of Landscape Architecture, and Bachelor of Building Construction; Master of Arts in Architecture, Master of Arts in Urban and Regional Planning, Master of Science in Building Construction, and Master of Building Construction. See page 87.

THE SCHOOL OF BUILDING CONSTRUCTION offers curricula leading to the degrees Bachelor of Building Construction, Master of Building Construction, and Master of Science in Building Construction. Also, a Ph.D. program is offered in conjunction with the College of Education. See page 95.

THE COLLEGE OF BUSINESS ADMINISTRATION offers curricular programs leading to the degree of Bachelor of Science in Business Admininstration (See Page 99) and a Bachelor of Science in Accounting degree (see School of Accounting, Page 71).

THE COLLEGE OF DENTISTRY, an integral part of the J. Hillis Miller Health Center, graduated its first students in June, 1976. The College offers an innovative modular curriculum leading to the degree of Doctor of Dental Medicine and has initiated post-graduate programs in various dental specialities. See Page 104.

THE COLLEGE OF EDUCATION has curricula in elementary and secondary school instruction leading to the degrees of Bachelor of Science in Education or Bachelor of Arts in Education. It also provides an inservice program for the teachers of the state. The P. K. Yonge Laboratory School, a unit of the College of Education, enrolls pupils from the kindergarten through the secondary school. Undergraduate teacher preparation programs are NCATE approved and lead to certification at pre-school, elementary, and secondary levels in Florida and thirty other states where NCATE standards provide the basis for reciprocal agreements. See Page 105.

THE COLLEGE OF ENGINEERING offers curricula leading to the degree of Bachelor of Science in Chemical Engineering, in Civil Engineering, in Electrical Engineering, in Industrial and Systems Engineering, and in Mechanical Engineering. The Bachelor of Science in Engineering is awarded with majors in Aerospace Engineering, Agricultural Engineering, Computer and Information Sciences, Engineering Sciences, Environmental Engineering, Materials Science and Engineering and Nuclear Engineering. The Bachelor of Science degree is awarded with majors in Nuclear Engineering Sciences, and Interdisciplinary Engineering Studies. The college also offers the Bachelor of Land Surveying degree. See page 117.

THE COLLEGE OF FINE ARTS offers curricula in the studio arts, history of art, crafts, graphic design, art education, music, music education, theatre, and dance and confers the degrees Bachelor of Design, Bachelor of Arts in Art, Bachelor of Fine Arts, Bachelor of Music, Bachelor of Music Education and Master of Fine Arts. See Page 135.

THE SCHOOL OF FOREST RESOURCES AND CONSERVATION is a unit of the Institute of Food and Agricultural Sciences. The School offers the Bachelor of Science in Forest Resources and Conservation Degree with majors in Forestry, Wildlife Ecology, and Resource Conservation. See page 145.

THE GRADUATE SCHOOL offers programs leading to the degrees of Doctor of Philosophy in 59 fields; Doctor of Education, Specialist in Education, Engineer, Master of Accounting, Master of Agriculture, Master of Agricultural Management and Resource Development, Master of Arts, Master of Arts in Architecture, Master of Arts in Education, Master of Arts in Health Education, Master of Arts in Journalism and Communications, Master of Arts in Physical Education, Master of Arts in Teaching, Master of Arts in Urban and Regional Planning, Master of Building Construction, Master of Business Administration, Master of Education, Master of Engineering, Master of Fine Arts, Master of Forest Resources and Conservation, Master of Health Education, Master of Health Sciences, Master of Laws in Taxation, Master of Nursing, Master of Physical Education, Master of Science, Master of Science in Building Construction, Master of Science in Nursing, Master of Science in Pharmacy, Master of Science in Statistics, Master of Science in Teaching, and Master of Statistics. All instruction is carried on by the faculties of the colleges and schools listed here.

THE COLLEGE OF HEALTH RELATED PROFESSIONS, a unit of the J. Hillis Miller Health Center, offers curricula leading to a Bachelor of Health Science with a major in Allied Health, Bachelor of Health Science in Clinical and Community Dietetics, Bachelor of Health Science in Medical Technology, Bachelor of Health Science in Occupational Therapy, and a Bachelor of Health Science in Physical Therapy. The College also offers a curriculum leading to the degree of Master of Health Science with a major in Occupational Therapy, and a Master of Health Science with a major in Rehabilitation Counseling, and a Ph.D., specializing in Clinical Psychology. A graduate program in health and hospital administration in cooperation with the College of Business Administration and clinical and research opportunities for advanced students in speech pathology and audiology in the College of Liberal Arts and Sciences is offered through the department of communicative disorders. See Page 151.

THE COLLEGE OF JOURNALISM AND COMMUNICATIONS offers curricula leading to the degree of Bachelor of Science in Journalism, Bachelor of Science in Advertising, and Bachelor of Science in Broadcasting. It offers sequences in magazines, public relations, technical communications and criminal justice public relations.

There are areas of specialization in reporting, editing, photojournalism, journalism education, broadcast news and public affairs, broadcast production, and broadcast management. See Page 161.

THE COLLEGE OF LAW offers a curriculum leading to the degree of Juris Doctor and a graduate program in taxation leading to the degree Master of Laws. See Page 169.

THE COLLEGE OF LIBERAL ARTS AND SCIENCES offers curricula leading to degrees of Bachelor of Arts and Bachelor of Sciences, with opportunities for specializing in many science and liberal arts fields. It offers the courses in mathematics, biological sciences, physical sciences, social sciences and humanities required in the curricula of the professional colleges. The College is the academic home for Freshmen and Sophomores while they prepare for admission to one of the other colleges. It provides courses in general education and awards the Associate of Arts Certificate. See Page 35.

THE COLLEGE OF MEDICINE, a unit of J. Hillis Miller

Health Center, offers a curriculum leading to the professional degree of Doctor of Medicine. Ph.D. degrees in basic medical sciences are offered through the Graduate School. A special medical scientist training program leading to the combined degree of Doctor of Medicine-Doctor of Philosophy is available jointly through the College of Medicine and the Graduate School. See Page 170.

THE COLLEGE OF NURSING, a unit of the J. Hillis Miller Health Center, offers a curriculum leading to the Bachelor of Science in Nursing degree. The College also offers a curriculum leading to the Master of Nursing degree or a Master of Science in Nursing degree. See Page 171.

THE COLLEGE OF PHARMACY, a unit of the J. Hillis Miller Health Center, offers a curriculum leading to the degree of Bachelor of Science in Pharmacy and the Doctor of Pharmacy Degree. In addition the Ph.D. and M.S. degrees are offered in pharmaceutical sciences through the Graduate School. See Page 175.

THE COLLEGE OF PHYSICAL EDUCATION, HEALTH, AND RECREATION offers services and programs through the departments of General Physical Education, Professional Physical Education, Health Education and Safety, and Recreation. The department of General Physical Education provides programs for university students other than majors. The departments of Professional Physical Education, Health Education and Safety, and Recreation offer professional preparation programs leading to undergraduate degrees in physical education, health education, and recreation. Professional areas of preparation include: teachers of physical education or health education, health educators for public or voluntary agencies, and recreation directors. See Page 179.

THE COLLEGE OF VETERINARY MEDICINE, a teaching unit of the J. Hillis Miller Health Center, offers a curriculum leading to the professional degree of Doctor of Veterinary Medicine. See Page 187.

DIVISION OF CONTINUING EDUCATION

During the last year more than 32,000 people took advantage of the many University sponsored opportunities made available through the Division of Continuing Education. More than 25,000 people participated in non-credit conferences, workshops, institutes and seminars. More than 5,000 students enrolled in Independent Study by Correspondence courses (both credit and non-credit). Over 1,700 students studied in credit extension classes throughout the State. Additionally, ten international programs were offered through this Division last year. Backed by the resources of the University, the Division of Continuing Education sees the State as its campus and the people as its student body.

SPECIAL INSTRUCTIONAL UNITS SERVING ALL COLLEGES AND SCHOOLS

THE INTERCOLLEGE DEPARTMENT OF COMPUTER AND INFORMATION SCIENCES. During the last three decades electronic information processing machines with capability many orders of magnitude beyond their predecessors have come into being. Though still in their infancy they are already extending man's capability to solve problems in every field of human activity. Against this background, the organization of a curriculum dedicated to a broad sector of human endeavor was necessary. Toward this end the Intercollege Department of Computer and Information Sciences was created in 1971. The department currently offers degree programs in the Colleges of Liberal Arts and Sciences, Business Administration, Engineering and an area of specialization in the technical communications degree program in the College of Journalism and Communications. Degree programs within other colleges are under study.

Subject areas found within the CIS curricula include programming, systems analysis, software devlopment techniques, information representation and transformation, language translators, operating systems, computer organization, and applications.

This background prepares the student for a wide range of careers in the business, industrial, scientific, civic and academic worlds wherein information flow and analysis is of critical importance to decision making.

In addition to the degree programs, several service courses are available for those who need experience in computer applications for proper career preparation. For further information, contact the CIS department office in 512 Weil Hall.

THE CENTER FOR LATIN AMERICAN STUDIES is the University unit responsible for directing or coordinating interdisciplinary instructional and research programs related to the Latin American and Caribbean area. It is a budgeted unit within the University and is administered by a Director immediately responsible to the Vice President for Academic Affairs.

The Center sponsors conferences, publishes the results of scholarly research related to Latin America, and cooperates with other University units in overseas development and training programs. It administers a program with Universidad de los Andes, Bogota, Colombia and a program in Brazil for the State University System and offers programs in Latin American Studies leading to a B.A. degree, and B.S., M.A. and Ph.D. Certificates in Latin American Studies; and an interdisciplinary Master of Arts in Latin American Studies.

The DEPARTMENT OF MILITARY SCIENCE offers the four year program and the two year program of Army ROTC. Completion of either of these programs by a student leads to being commissioned in one of the branches of the United States Army Reserve or the Regular Army. Freshman/Sophomore AROTC carries no service obligation. One, two, three and four year scholarships are available to interested students who can qualify.

THE DEPARTMENT OF NAVAL SCIENCE offers a two-year and a four-year program of Navy-Marine ROTC. Upon successful completion of this officer training program, the graduate receives a commission in the U.S. Navy or U.S. Marine Corps and is immediately assigned to active duty. Scholarships covering two, three, or four full years of study are available to male and female students who can qualify.

THE DEPARTMENT OF AEROSPACE STUDIES offers male and female students both two-year and four-year programs in Air Force ROTC. Completion of either of these officer education programs leads to a commission in the United States Air Force. Two, Three and Four year scholarships are available on a competitive basis to students enrolled in the program. Qualified individuals may compete for Pilot Training assignments and begin learning to fly during their Senior Year.

THE DEPARTMENT OF MUSIC has the responsibility for such musical organizations as the University Bands, Orchestras, Choruses, and Glee Clubs, and offers courses in the following areas: (1) Theory of Music, (2) Composition, (3) History and Literature, (4) Music Performance, (5) Church Music, (6) Music Education, (7) Opera Workshop and (8) Ensembles.

THE DEPARTMENT OF GENERAL PHYSICAL EDUCATION OFFERS a wide variety of physical activity courses to all students enrolled at the University. The Department operates on the premise that although all people need physical activity, all do not need or care for the same kind. Consequently, the department offers many avenues for the student to enhance physical health and understand its relation to total health.

It is hoped that by developing competencies in at least one physical activity, students will be able to make self-determining decisions concerning the role that exercise will play in their personal lives.

Students may elect to take any course under the satisfactory-unsatisfactory option. For further information see course offerings and descriptions under the General Physical Education heading in this catalog.

INSTRUCTIONAL SERVICE UNITS

THE OFFICE OF INSTRUCTIONAL RESOURCES encourages experimentation in teaching and individualized services to students. Reporting directly to the Office of Academic Affairs, it provides support for the innovation of alternative approaches to instruction in the colleges and departments of the University; assists faculty members in the development of instructional modules or systems for specific courses; and furnishes technical assistance in the development and use of teaching materials and media, analysis and improvement of teaching and the evaluation of student performance. Three units include media production, testing and evaluation services, and an instructional improvement section.

Other units emphasizing individualized instruction include the Reading and Writing Center, the O.I.R. Teaching Center, Mathematics Laboratory and the Language Laboratory. Selected self-paced non-credit courses are available in reading, writing, study habits, tutoring and language skills. Research consultation, course enrichment and evaluation services are also offered to interested faculty.

THE OFFICE OF THE REGISTRAR has charge of the admission and registration of students, the maintenance of academic records, the scheduling of courses, and the issuance of transcripts of student records.

THE COUNSELOR TO FOREIGN AGRICULTURE STUDENTS. Foreign students in Agriculture are requested to contact the Office of International Programs in McCarty Hall. This office aids foreign students to integrate their American education more completely with actual conditions in their homelands and also gives information to all students interested in foreign agricultural problems and careers in the tropics.

UNIVERSITY OF FLORIDA LIBRARY SERVICE

The library consists of two central units, Library East and Library West, and branch libraries in the areas of Architecture and Fine Arts, Education, Engineering, Law, the Institute of Food and Agricultural Sciences, the J. Hillis Miller Health Center, Chemistry and the P.K. Yonge Laboratory School. In addition, reading room facilities have been provided for Business Administration, Journalism and Communications, Music, Physical Education, Health and Recreation, Physics and the dormitory areas.

The holdings of the libraries number over 2,300,000 cataloged volumes and a large number of uncataloged documents and newspapers. Many of the materials are in the form of microfilm and microcards.

A number of nationally significant research collections are maintained as part of the library system. Since 1977, the Libraries have opened the Isser and Rae Price Library of Judaica, the largest collection of its kind in the southeast, the Baldwin Library, among the world's greatest collections of literature for children, and housed in the Department of Rare Books and Manuscripts, the Parkman D. Howe Collection of American Literature, which contains important first editions and manuscripts of every New England author writing before 1900. In the rare books and manuscript area the researcher will also find the papers of many well known authors, such as Marjorie Kinnan Rawlings and John D. MacDonald, and the Margaret Dreier Robins papers, which are vital to the history of the Women's Trade Union League in America.

The P.K. Yonge Library of Florida History is the state's preeminent Floridiana collection and its holdings of Spanish Colonial documents concerning the southeastern United States is the largest of its kind in North America.

Florida's interest and heritage is reflected in the Latin American Collection. The department maintains the most comprehensive collection of Caribbean materials found in a United States university library.

A rich collection of serials, ephemera, and reference materials dealing with the performing arts has been gathered into the Belknap Collection.

Reference service is provided in Library West and in the various branch libraries and reading rooms. A major collection of bibliographies and reference books and the union catalog are located on the first floor of Library West.

Photoduplication services are available. The regular schedule for the central libraries is Monday through Friday, 8:00 A.M. to 11:00 P.M.; Saturday, 10:00 A.M. to 5:00 P.M.; Sunday, 10:00 A.M. to 11:00 P.M. The libraries serving the various academic colleges and schools observe a similar schedule with variations.

THE FLORIDA STATE MUSEUM

The Florida State Museum was created by an act of the Legislature in 1917 as a department of the University of Florida. Through its affiliation with the University it carries the dual responsibility as the State Museum of Florida and the University Museum.

The Museum operates as a center of research in the natural sciences and anthropology. Its functions as an educational arm of the University are carried forward through interpretive displays and scientific and popular publications. Under the administrative control of the Director are the three departments of the Museum: Natural Sciences is concerned with the study and expansion of the research collections as well as research in a variety of areas in functional and evolutionary biology, sociobiology and ecology; Social Sciences is concerned with the study of human variation and cultures, both historic and prehistoric; Interpretation is concerned with the interpretation of knowledge through museum education and exhibit techniques. Members of the scientific and educational staff of the Museum hold dual appointments in appropriate teaching departments. Through these appointments they participate in both the undergraduate and graduate teaching programs and supervision of graduate students.

Scientific reports are published in the *Bulletin of the Florida State Museum, Biological Sciences*, the *Ripley P. Bullen Monographs in Anthropology and History*, and in the *Contributions of the Florida State Museum, Anthropology and History*.

The research collections are under the care of curators who encourage the scientific study of the Museum's holdings. Materials are constantly being added to the collections both through gifts from friends and as the result of research activities of the Museum staff. The archaeological and ethnological collections are noteworthy. There are extensive study collections of birds, mammals, mollusks, reptiles, amphibians, fish, invertebrate and vertebrate fossils, as well as archives of animal sounds associated with the bioacoustics laboratory.

The Allyn Museum of Entomology, Sarasota, Florida, is a unit of the Department of Natural Sciences, Florida State Museum. The combined Sarasota and Gainesville holdings in Lepidoptera rank the Allyn Museum of Entomology as the largest in the western hemisphere and the premier Lepidoptera research center in the world. The Allyn Museum of Entomology publishes the *Bulletin of the Allyn Museum of Entomology* and sponsors the Karl Jordan Medal. The Allyn Collection serves as a major source for taxonomic and biogeographic research by a number of Florida State Museum and Department of Zoology faculty and students, as well as a great many visiting entomologists from around the world.

The Florida State Herbarium is a unit of the Department of Natural Sciences, Florida State Museum. It is an important scientific resource in which some 250,000 specimens are curated. Largest in the state and one of the largest in the Southeast, the herbarium contains the most complete collections in existence of Florida vascular plants and fungi. It also contains important collections of tropical American bryophytes and Florida lichens. In addition, there is a particularly complete collection of seeds. The portfolio of

botanical illustrations and the growing botanical library complement the ever-expanding collections of plant specimens.

Opportunities are provided for students, staff, and visiting scientists to use the collections. Research and fieldwork are presently sponsored in the anthropological, paleontological and zoological fields. Students interested in these specialties should make application to the appropriate teaching department.

Graduate assistantships are available in the Museum in areas of specialization emphasized in its research programs. Facilities are available for graduate students.

The Museum is located at the corner of Museum Road and Newell Drive in a modern facility completed in 1970. The public halls are open from nine until five each weekday, including Saturday, and from one to five on Sundays, and holidays (closed Christmas Day). There is no admission charge. The Museum is frequently used by University and public school classes. Classes for children and special public programs are also offered for members of the University community and the general public.

GENERAL STATE AND UNIVERSITY AGENCIES

THE FLORIDA COOPERATIVE EXTENSION SERVICE.

The transfer and application of knowledge through nonresident educational programs is the primary purpose of the Florida Cooperative Extension Service, a component of the Institute of Food and Agricultural Sciences. The educational programs are tailored to fit the needs of many audiences in areas of agricultural production including energy management, marketing and utilization; home economics; community resource development; natural resource management, 4-H youth development, energy and marine sciences. Audiences include adults and youth, rural and urban citizens, minorities and people from all economic levels. The Cooperative Extension Service is administered by the University of Florida under a memorandum of understanding with USDA. There is also a cooperative program funded through federal grants with Florida A&M University. The basic legislative authority makes provision for cooperation with local government. In Florida, county programs are carried out jointly between the University and respective county governments in the 67 counties. The Extension Service along with Resident Instruction and Research in IFAS form a functional model typifying the tripartite organizational structure envisioned in the Morrill Act for the Land Grant College system.

The OFFICE OF UNIVERSITY RELATIONS is responsible for the development of public relations, including visitor reception, cooperating with all campus agencies and organizations in the planning and implementation of their public relations activities and serving as the University representative with civic organizations which work with the University and are not professionally related to a particular school or college. University Relations coordinates with all campus agencies dealing with off-campus publics in a continuing effort to develop two-way communications with the public and to encourage public support and understanding of the University, its programs and higher education.

The DIVISION OF INFORMATION AND PUBLICATIONS SERVICES serves University central administration and University Educational and General budgeted academic units, departments, service offices and other campus-related organizations by distributing information through mass media outlets, and providing communication services for the campus community. It interprets the University's programs, policies and objectives through newspapers and magazines, radio and television broadcasts, motion pictures, publications, photographs, audio-visual presentations, special displays and exhibits, and community relations projects. The Division produces the *University Digest* printed in the *Independent Alligator*, and has complete video tape production facilities used to develop television programming for both commercial and public broadcasting stations. It assists other units by coordinating copy content, design and preliminary production for booklets, folders, brochures, and other printed material, and assists in preparing bid specifications for printing.

The OFFICE OF DEVELOPMENT AND ALUMNI AFFAIRS is the campus headquarters for the University of Florida National Alumni Association, Inc. and the University of Florida Foundation, Inc.

The University of Florida National Alumni Association, Inc. brings together the organized efforts of alumni and the promotion of the interests and needs of the University and strives to encourage continuous participation by alumni in the life of the University.

The University of Florida Foundation exists to encourage support from the private sector to the University for both operating and capital purposes. It is a private corporation organized to hold funds for the benefit of the University, to invest them and to insure the maximum value of the University's private support.

THE UNIVERSITY GALLERY is an integral part of the Fine Arts college. The Gallery is located on the campus facing Southwest 13th Street (or U.S. 441). An atrium and a contemporary sculptural fountain are two pleasing features of the Gallery's distinctive architecture style. The Gallery, with 3000 square feet of display space, is completely modern, air-conditioned and maintains a varied exhibition schedule of the visual arts during the year. The content of exhibitions displayed in the University Gallery range from the creations by traditional masters through to the latest and most experimental works by the modern avant garde. The minor arts of yesterday and today along with the creations of oriental and primitive cultures form topics for exhibitions scheduled. Besides its regularly scheduled exhibitions, which show for approximately four to six weeks, the Gallery originates several unique exhibitions from its own and other museums' collections each year. The Gallery's hours are from 9 A.M. to 5 P.M. daily except Sunday when they are 1 P.M. to 5 P.M. The Gallery is closed on Saturdays and holidays.

ART DEPARTMENT GALLERY, the teaching gallery, is located adjacent to the Department's office area on the third floor of the Classroom Building in the Artchitecture and Fine Arts complex. As a direct and physical adjunct to the Art Department's teaching program this Gallery displays smaller traveling exhibitions of merit as well as one man shows by the faculty artists and student exhibitions. The Gallery is open Monday through Friday from 8 A.M. to noon and from 1 P.M. to 5 P.M. It is closed Saturdays, Sundays and holidays.

THE CENTER FOR LATIN AMERICAN AND TROPICAL ARTS is an interdisciplinary Center that provides coordination, direction, and focus to strengthen existing programs related to the Fine Arts within the College of Fine Arts. The Center's faculty is bound together by a desire to relate their research and teaching activities to the broader concepts concerned with the fine arts of various world cultures. The Center broadens and strengthens existing interdepartmental relations and provides additional stimuli and mechanisms for translating results of research into more viable forms that relate directly to societal needs. It also establishes more effective lines for the training of able students at the undergraduate, graduate, and adult education levels in various aspects of the fine arts.

THE UNIVERSITY BROADCAST FACILITY is operated by the College of Journalism and Communications . It includes WUFT, Channel 5, a public broadcasting television station (PBS), WUFT-FM, a non-commercial radio station (NPR) 89.1 MHz, WRUF-AM, a commercial radio station (NBC) 850 KHz, and WRUF-FM, a commercial FM station, (CBS) stereo, 103.7 MHz.

Approximately 100 students are employed in these broadcasting operations. Thus, in addition to the broad academic background provided in the university's classrooms and laboratories, these work opportunities provide a valuable experience in day-to-day operations typical of the industry. Students perform such functions as reporter, anchor-person, news producer, recording engineer, director, cameraman, and announcer all under the guidance of professional broadcasters. The college has earned a nationwide reputa-

tion for the demonstrated effectiveness of this academic and work experience training.

WUFT-TV telecasts programs of PBS, the Public Broadcasting Service, FPB, Florida Public Broadcasting Network, as well as local studio and remote originations. As a unit of the Florida Public Television Network, it both originates and receives programs of particular interest to the people of Florida.

WUFT-FM, with 100,000 watts of power, reaches 16 North Central Florida counties. The only public radio station in that area, WUFT-FM broadcasts a fine arts diversified and news format for 20½ hours every day of the year. The station provides a variety of on-air, production and reporting experience for broadcast majors of the College of Journalism and Communications. These students are under the direct guidance of professional public radio broadcasters. With a strong emphasis on local production and programming WUFT-FM is a satellite member station of National Public Radio and aims to serve and reflect the diverse needs of the communities of North Central Florida.

WRUF-AM serves the contemporary music audience, while the WRUF-FM music ranges from show tunes to classical music, with a touch of progressive rock for the late night listener. Student communicators produce and broadcast regular news programs over both stations under faculty supervision.

The student's proximity to, and participation in, this diverse broadcast operation brings a greater understanding of the opportunities and obligations that exist in the field of broadcasting.

THE UNIVERSITY OF FLORIDA PRESS

The Univerity of Florida is host to the state university system's scholarly publishing facility, *University Presses of Florida*. The goals of the systemwide publishing program implemented by University Presses of Florida are expressed in Board of Regents' policy:

> ". . . to publish books, monographs, journals, and other types of scholarly or creative works. The Press shall give special attention to works of distinguished scholarship in academic areas of particular interest and usefulness to the citizens of Florida. The Press shall publish original works by state university faculty members, but it may also publish meritorious works originating elsewhere and may republish out-of-print works."

Each university's faculty publishing committee is independently responsible for selecting works for publication through the facilities of University Presses of Florida. At the University of Florida, the University Press Board of Managers oversees the locally determined publishing program.

The purpose of the University of Florida Press is to encourage, seek out, and publish original and scholarly manuscripts which will aid in developing the University as a recognized center of research and scholarship.

In addition to its broad range of state, regional, and Latin American titles, the Press publishes books of general interest and five separate series in Floridiana, gerontology, humanities, Latin America studies, and social sciences.

The Press Board of Managers, including the director and fifteen faculty experts appointed by the President of the University, determines policies of publication relating to the acceptance or rejection of manuscripts and the issuance of author contracts. Each year the board examines numerous manuscripts submitted not only by the University faculty but by authors from all over the United States, Europe, and Latin America.

University Presses of Florida is a member of the Association of American University Presses and of the Association of American Publishers, Inc.

ORGANIZED RESEARCH

THE DIVISION OF SPONSORED RESEARCH was established by an act of the legislature to support and to foster sponsored research and training as a resource essential to excellence in education and to provide maximum service to the State. The Division is a development arm of the University, coordinating its efforts closely with the Office of Academic Affairs. The Division of Sponsored Research is directed by the Dean for Graduate Studies and Research.

All proposals for sponsorship of research, grants-in-aid, and training grants are approved by the director. Negotiations on administrative matters with potential contracting agencies or sponsors of research and training projects are carried out by the Division.

The activities of the Division of Sponsored Research are intended to stimulate growth and to assist in expanding a balanced research and training program throughout the University. These activities are intimately related to the support of the graduate and professional program. The services provided are designed to relieve the principal investigators in many departments of detailed administrative and reporting duties connected with some sponsored programs. The duties and responsibilities of the Division, of course, do not supplant the prerogative of the principal investigator who seeks sponsors for his own project nor the responsibility of the investigator for the scientific integrity of the project. In direct contacts between a principal investigator and a potential sponsor, however, coordination with the Division is necessary to insure uniformity in contract requirements and to avoid duplication of negotiations with the same sponsor.

The Division of Sponsored Research is administratively responsible to the Vice President for Academic Affairs. Policies and procedures for the Division are developed by a board of directors working with the director within the general framework of the administrative policies and procedures of the University.

THE AGRICULTURAL EXPERIMENT STATION, the research function unit of the Institute of Food and Agricultural Sciences (IFAS), has the responsibility of developing new knowledge and technology toward solution of agricultural problems in the State. Research is administered through the office of the Dean for Research located on the University of Florida campus. IFAS research is conducted throughout the State. Twenty-one departments are located on campus—Agricultural Engineering, Agricultural and Extension Education, Agronomy, Animal Science, Botany, Dairy Science, Entomology and Nematology, Food and Resource Economics, Food Science and Human Nutrition, 4-H and Other Youth Programs, School of Forest Resources and Conservation, Fruit Crops, Home Economics, Microbiology and Cell Science, Ornamental Horticulture, Plant Pathology, Poultry Science, Soil Science, Statistics, Vegetable Crops, and Preventive Medicine (College of Veterinary Medicine). In addition, six units vital to its research programs, namely: Editorial, Library, Business Service, and Centers for Rural Development, Environmental Programs, and Biomass are located on campus.

In order to best serve the varied needs of Florida's diversified agriculture, Agricultural Research and Education Centers are located at numerous locations having different climatic conditions, soil types and crops. Intensive research is conducted in all fields of agriculture such as citrus, vegetable, field crops, livestock, pastures, and many others. Agriculture Research and Education Centers are located in Homestead, Belle Glade, Bradenton, Lake Alfred, Quincy, Sanford, and Tallahassee (Florida A & M University). A Research and Education Center is also located at Welaka, Florida and is concerned largely with biological research progams and youth programs. Agricultural Research Centers are located in Monticello, Ft. Pierce, Immokalee, Dover, Ft. Lauderdale, Hastings, Ona, Apopka, Marianna,. Live Oak, Leesburg, and Jay. Cooperative research is conducted with the Brooksville Beef Cattle Research Station, Brooksville, a USDA field laboratory, in its beef cattle and pasture production and management programs, with the National Weather Service, Ruskin, in the Federal Frost Warning Service for fruit and vegetable producers and shippers, and with numerous Florida agricultural agencies and organizations.

Results of IFAS research are published in scientific journals, bulletins, monographs, circulars, and mimeograph reports which are available to Florida residents usually without charge upon request to the Editorial Department of the Agricultural Experiment Station in Gainesville. The Agricultural

Experiment Station cooperates closely with the Cooperative Extension Service in providing research findings for prompt dissemination.

THE FLORIDA ENGINEERING AND INDUSTRIAL EXPERIMENT STATION (EIES) developed from early research activities of the engineering faculty and was officially established in 1941 by the Legislature as an integral part of the College of Engineering. Its mandate is "to organize and promote the prosecution of research projects of engineering and related sciences, with special reference to such of these problems as are important to the industries of Florida."

The College and the Station form a close interlocking relationship with the EIES serving as the research arm of the College. In this capacity the EIES fulfills its function of conducting research on many of Florida's most significant problems ranging from energy to water resources, environmental issues to health-related activities. Of course many of these problems transcend the State and are also of national concern. The Station has developed a national and international reputation in many areas and the faculty are at the forefront of their fields. This has a major positive impact on the College since it makes good teaching possible, exposes students to many important engineering problems normally not encountered in a college program, and helps the faculty better instill students with the qualifications necessary for the successful practice of their profession. Moreover, both undergraduate and graduate students frequently find employment on research projects.

The Station receives a small but important portion of its operating funds from the State; this funding base results in a near 10 for 1 return from contracts and grants with government agencies, foundations and industrial organizations. The Station has excellent facilities and faculty in many diverse fields; a few such examples are; solar energy, bioengineering, energy conservation and conversion, ceramics, new materials development, photovoltaics, robotics, soil mechanics, transportation research, coastal and oceanographic engineering, microelectronics, air and water pollution control, nuclear pumped lasers, systems analysis, fluid dynamics and hydrology, technology for enhanced oil recovery, lightning research.

THE FLORIDA ARCHITECTURE & BUILDING RESEARCH CENTER is a unit of the College of Architecture established to foster and encourage research related to the disciplines represented in the college. These include architecture, building construction, landscape architecture, interior design, and urban and regional planning. The Center also provides assistance to faculty and graduate students in establishing cooperative efforts with other units of the University.

THE BUREAU OF ECONOMIC AND BUSINESS RESEARCH is the research arm of the College of Business Administration. Through its four programs—forecasting, population, survey, and publications—the Bureau generates and disseminates demographic, economic and business information about Florida. Major sources of this information are the annual Florida Statistical Abstract and the biennial Older People in Florida published by the Bureau. Reports of Bureau research are published in the monthly Economic Leaflets and Florida Economic Indicators, both free to Florida residents, and Florida Building Permits; in the quarterly Business and Economic Dimensions, Population Studies, and The Florida Outlook; in the annual Florida Estimates of Population for state, counties and municipalities; and special reports. The Bureau makes it possible for teaching professors to engage in organized research and provides research training for undergraduate and graduate students.

THE PUBLIC ADMINISTRATION CLEARING SERVICE is a research, publication, and service adjunct of the Department of Political Science in the College of Liberal Arts and Sciences. It carries on a continuous program of research on public administration and public policy in Florida; it publishes research and surveys of governmental and administrative problems in both scientific and popular monograph form. In addition, the Public Administration Clearing Service coordinates the programs of instruction and public service training in cooperation with other units of the University.

THE COMMUNICATION RESEARCH CENTER OF THE COLLEGE OF JOURNALISM AND COMMUNICATIONS conducts research in the news media, in broadcasting, advertising, and public relations.

THE DIVISION OF PLANNING AND ANALYSIS performs the analysis and does the planning required to ensure that available resources will be used to accomplish the goals of the many and diverse programs of the University of Florida at minimum long-range cost. Work is carried out by the staff and related committees in the areas of campus planning, budgeting, space assignment, coordination of architectural design and construction of facilities.

THE FLORIDA WATER RESOURCES RESEARCH CENTER, which is funded by the Department of the Interior, was established in 1964 at the University of Florida as the result of the passage of P.L. 88-379—The Water Resources Research Act of 1964—"to stimulate, sponsor, provide for, and supplement present programs for conduct of research, investigation, experiments, and the training of scientists in the fields of water and of resources which affect water." The Center's Director operates under the general policy guidance of an advisory committee appointed by the President of the University. Research projects administered by the Center and pertaining to the achievement of adequate statewide water resource management, water quality and water quantity are being conducted by professors in various departments at the University of Florida, and other colleges and universities in the State. Graduate assistants may be employed on these projects or other activities of the Center.

NERDC

In addition to numerous small digital and hybrid computers located on the campus, the University of Florida houses the central facilities of the Northeast Regional Data Center (NERDC) of the State University System of Florida. Facilities available to students, faculty, and staff include an Amdahl 470 V/6-II computer and an IBM 3033 Model N-12 computer (running under OS/MVS with JES2). These are supported by 22 megabytes of main memory, more than 42 IBM 3350 disk drives, 22 IBM 3330 disk drives, ten 9-track tape drives, one 7-track tape drive, and two 1403 high-speed printers.

NERDC is a State University System support facility for the University of Florida and for other state educational institutions and agencies in northern Florida. NERDC's facilities are used for instructional, administrative, and research computing. The organizations directly responsible for computing at the University of Florida are Shands Teaching Hospital Data Processing Division, University of Florida Administrative Computing Services, the Center for Instructional and Research Computing Activities (CIRCA - UF), and the Institute of Food and Agricultural Sciences (IFAS). Access through NERDC to four other regional data centers in the State is available through the State University System Computer Network.

NERDC provides facilities for cards, magnetic and paper tape, disks, graphics, and Computer Output Microfiche. NERDC supports batch processing through more than 500 interactive terminals. These terminals support interactive APL/SV, CICS/VS, ATMS, TSO, MUSIC, ASSEMBLER, APL, BASIC, WATFIV, FORTRAN, SCRIPT, PL/I, COGO, PANVALET, and a locally written editor and remote-job entry (RJE) facility. Graphics output is available through a Gould 5100 Electrostatic Plotter operated at NERDC's central site for the University of Florida.

Extensive software is provided for batch processing supporting the major high-level languages including FORTRAN, ASSEMBLER, COBOL, PL/I, and ALGOL; the SYSTEM 2000 and INQUIRE data base management systems and MARK IV and EASYTRIEVE file handlers and report generators; student-oriented compilers and interpreters including WATFIV, PL/C, ASSIST, PASCAL, WATBOL, and SPITBOL; most major statistical packages including SPSS, SAS, and BMDP; text-editing programs such as TEXT360, ATMS, SCRIPT, and FORMAT; several libraries of scientific and mathematical routines including IMSL and the HARWELL library; a large number of program packages and special-purpose languages; plotting software; mini and micro computer support;

and many others. More information is available through the NERDC User's Manual, the Guidebook for New Users, and a monthly newsletter, /Update.

CIRCA

The Center for Instructional and Research Computing Activities (CIRCA) provides computing services for University of Florida faculty and students. CIRCA provides consulting, programming, equipment repair, data-entry services, open-shop unit-record equipment, interactive terminals, and remote-batch terminals. Plotting facilities are available through the Gould 5100 Electrostatic Plotter and Printronix dot-matrix printers. High-speed batch input/output and keypunch facilities are available at several locations throughout campus. Open-shop terminals and consulting services are available in Weil Hall.

In cooperation with NERDC and CIRCA, the UF Library offers extensive Census data services.

INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES

THE INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES is the University of Florida's statewide agricultural research and educational organization. IFAS programs extend into every county, and reach people in virtually every community in Florida.

The primary mission of IFAS is to help Florida realize its maximum potential for agricultural development, and to contribute to the solution of many social, economic, environmental and cultural problems of concern to the people of the state. This vital developmental mission is carried out through the three functions of resident instruction, research, and extension. These are carefully interrelated to provide a highly coordinated effort for the benefit of Florida — its citizens and its industry. This effort is guided by the Vice President for Agricultural Affairs.

The offices of the Vice President, as well as the Deans for Resident Instruction, Research and Extension are located near the center of campus in McCarty Hall. Administrative offices of the School of Forest Resources and Conservation are located in Newins-Ziegler Hall. The Hume Agricultural Library is located in the McCarty Hall complex near the offices and classrooms of most departments.

The resident instruction programs conducted through the College of Agriculture and the School of Forest Resources and Conservation, are concerned with educating young men and women for the nation's growing and increasingly complex agricultural industry. The curricula for the different fields of study are structured to provide the business, technological and science education necessary for graduates to meet the ever changing needs of a diverse and highly specialized agriculture, as well as related business and industry. All academic departments offer an undergraduate program leading to a Bachelor of Science in Agriculture. The School of Forest Resources and Conservation offers an undergraduate program which leads to the Bachelor of Science in Forest Resources and Conservation. Graduate programs at the masters level are offered by all academic units. The Doctor of Philosophy degree is offered in 11 specialties.

The mission of the IFAS research programs is one of development, as well as improving existing technology to enable Florida's agricultural industry to become more efficient, particularly in reducing dependence on consumption of fossil fuels; to improve consumer health and nutrition and to improve the social and economic well-being of producers and consumers of agricultural commodities and resources. Through the network of 23 research and education centers, located in various areas of the state, applied as well as basic research efforts develop new and improved technology to meet the agricultural needs of Florida. Additional IFAS research information is contained under THE AGRICULTURAL EXPERIMENT STATION of the Organized Research section.

The Florida Cooperative Extension Service is administered by IFAS in cooperation with the several Boards of County Commissioners in the state and the U.S. Department of Agriculture. Extension offices in all 67 counties are responsible for the transfer and application of knowledge through non-resident educational programs. These programs are tailored to fit the needs of the many audiences in agricultural production, marketing and utilization; home economics; community resource development, marine sciences and energy. Audiences include adults and youth, rural and urban citizens, minorities and people from all economics levels.

In 1972, the Center for Community and Rural Development was established to provide statewide coordination of research and education programs in community development for rural and non-rural metropolitan areas. This center is concerned with improving the economic conditions in these areas so that people have better employment opportunities. Through support of undergraduate and graduate education the Center is assisting in the training of young people to provide leadership in planning and developing local programs. Courses of study in the economics of environmental quality, natural resource planning and development, rural income and employment, and regional economic planning help them make definite contributions toward improving the economic and social conditions of non-urban areas.

The Center for Environmental and Natural Resources Programs was created in October, 1973, to provide statewide coordination for the IFAS research and education programs concerned with solving some of the serious environmental and natural resources problems related to agriculture throughout Florida. The Center is involved in developing ways to protect managed agriculture ecosystems from environmental damage, integrating environmental practices into agricultural production technology and protecting and enhancing the quality of all of Florida's environment.

In 1980, IFAS received approval for the establishment of the Center for Biomass Energy Systems. The center coordinates planning, development and implementation of research related to production of various types of plant biomass, methods of converting biomass to practical forms of fuel and systems for utilizing bio-fuels and their co- and by-products.

The creation of an Office of International Programs in 1966, formalized the international commitment of IFAS. The Office of International Programs is responsible for administration, coordination and development of all activities which build or strengthen the international dimension of IFAS. This includes participation in the determination of contract and grant policy, development of outside funding sources for international research and training projects, and assistance in the initiation of new education programs. Integration of international programs into each department is a specific objective. This provides a unique opportunity for focusing maximum resources available on the project. Both faculty in the state and those overseas benefit by the interchange of ideas. Education and research is handled under the same office by the Center for Tropical Agriculture established in 1965.

THE J. HILLIS MILLER HEALTH CENTER

The J. Hillis Miller Health Center at the University of Florida in Gainesville serves the entire state through four major dimensions of activity: the provision of modern health care for both people and animals, the education of future health professionals, research to expand knowledge of disease and to improve treatment, and a wide variety of outreach health care projects.

The 25-year old complex includes the Colleges of Medicine, Nursing, Health Related Professions, Pharmacy, Dentistry and the new College of Veterinary Medicine.

Shands Hospital, recently granted official status as a private non-profit corporation, continues to serve as a major referral center for modern patient care and clinical training of students in the health professions.

The north expansion of the Health Center's building pro-

gram, the Communicore Building, became operational in 1974 and houses teaching laboratories, animal quarters, lecture halls, a library and a learning resources and communications center. New facilities for the College of Dentistry became operational in 1975. As part of the Health Center complex, new facilities for the College of Veterinary Medicine were phased into operation in late 1977 and early 1978. The facilities include the Veterinary Medical Teaching Hospital and Clinics where the state's practicing veterinarians may refer animal patients with rare or complicated diseases.

A Veterans Administration Medical Center across from the Health Center is engaged in programs of patient care, teaching and research which are affiliated with the programs in the Health Center's colleges.

The Jacksonville Health Education Programs, Inc. which offers educational opportunity in clinical fields to students of the Health Center's colleges is an official division of the University of Florida.

The academic programs of the Health Center prepare students to understand that tomorrow's health care must focus on the community in order to achieve the comprehensive health care of man. The programs help them to understand that health care involves the health team: the physician; the nurse; the dentist, the pharmacist, persons in health related professions; the community; the researcher; the educator; the counselor; that by training together, and later by working together, these men and women contribute more effectively to a person's well being.

The health-oriented professions exchange information within the Health Center, and draw upon the other resources of the University to further man's understanding of health and illness.

Since the opening of its first units — the Colleges of Medicine and Nursing — in 1956, the Health Center has become a leading center for health care, education and research in the Southeast.

Located on the southern edge of the University of Florida campus, the Health Center was named for Dr. J. Hillis Miller, late president of the University, whose vision and determination helped formulate the early planning of the health complex as an integral part of the University.

ADMISSIONS

APPLICATION FOR ADMISSIONS

Application for admission to any undergraduate College, School or Division of the University must be made to the Admissions Section of the Office of the Registrar on the forms prescribed and by the dates indicated below. It is quite proper to correspond with Deans, Directors or Department Chairmen, but such contact with University officers does not in any way eliminate the necessity for filing a formal application in the Office of the Registrar by the dates specified.

How to Apply: An applicant should address a request to the Admissions Section, Office of the Registrar, University of Florida asking for application forms. Forms and directions for completion of applications vary with the level of entry at the University and the applicant should indicate that forms are being requested for admission as a Freshman, Undergraduate Transfer, Postbaccalaureate, Graduate, Dental, Law, Medical, Veterinary Medicine, or Special student, as the case might be.

IMPORTANT NOTE: An application for admission must be filed for the specific term that the studeht wishes to enter the University and will be considered for entrance in that term ONLY. Applicants wishing to change their planned entry date should contact the Admissions Office for application instructions. An approval for admission is valid ONLY for entrance in the term specified in the admission notice and does not in any way imply that approval would also be given for entrance in any other term.

GENERAL STATEMENT

The University encourages applications from qualified applicants of both sexes from all cultural, racial, religious, and ethnic groups. The University does not discriminate on the basis of handicap in admission or access to its programs and activities. Both the Educational Testing Service (SAT) and The American College Testing Program (ACT) have brochures describing special testing arrangements for handicapped applicants and there are alternate admissions procedures for handicapped applicants who are unable to take the required tests.

A brief summary of the general requirements for admission or readmission to any college or division of the University is given below:

1. A satisfactory academic record. Each applicant must furnish a complete chronological record of educational institutions previously attended. Official transcripts must be submitted in accordance with instructions which accompany the application form.
2. Satisfactory scores on achievement tests or aptitude tests as noted in the application instructions.
3. A satisfactory conduct record.

NOTE: Board of Regents regulations provide that furnishing false or fraudulent statements or information in connection with an application for admission or residence affidavit may result in disciplinary action, denial of admission, and invalidation of credits or degrees earned.

The specific requirements for readmission (at the same or a different level) of a student previously enrolled at the University of Florida are given in the STUDENT REGULATIONS section of this catalog. Consult the index for page number.

The specific requirements for admission to the University of Florida for the first time as a Freshman, Undergraduate Transfer, Postbaccalaureate, Graduate, Dental, Law, Medical, Veterinary Medicine, or Special student may be found in the appropriate sections which follow. **It should be understood, however, that minimum requirements are given and that admission to the University is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. Under Board of Regents policy up to ten per cent of the students admitted during the academic year at any level may be admitted as exceptions to the minimum requirements. The University Admissions Committee is the agency at the University of Florida that is responsible for the admission of undergraduate students under this exception policy. For additional information regarding this policy, contact the Minority and Disadvantaged Admissions Officer, Office of the Registrar.**

The admission requirements have been arrived at after a very careful study of the experiences of thousands of students over a long period of years. In every case minimum requirements have evolved from studies of student performance at the University of Florida. These studies have had as a primary objective the identification of factors that would indicate a reasonable chance for successful completion of University of Florida work.

The University Admissions Committee is responsible for administering all admissions to the University and its various components including applicants approved as exceptions to the minimum admission requirements set forth in this catalog.

Students who are planning to enter the University of Florida for the first time will be considered for admission as follows:

1. *Beginning Freshmen:* students who have never attended college. (See following section, ADMISSION AS A FRESHMAN).
2. *Undergraduate Transfers:* students who have previously attended any college or university, regardless of amount of time spent in attendance or credit earned, but who have not received a bachelor's degree. (See following section, ADMISSION AS A TRANSFER STUDENT TO UNDERGRADUATE SCHOOLS AND COLLEGES).
3. Postbaccalaureate Students: students who have received a bachelor's degree but do not wish to be admitted to graduate study. (See following section, ADMISSION AS A POSTBACCALAUREATE STUDENT.)
4. *Graduate Students:* candidates for Master's or Doctor's degrees. (See following section, ADMISSION TO GRADUATE SCHOOL).
5. *Dental Students:* candidates for admission to the College of Dentistry. (See following section, ADMISSION TO THE COLLEGE OF DENTISTRY).
6. *Law Students:* candidates for admission to the College of Law. (See following section, ADMISSION TO THE COLLEGE OF LAW).
7. *Medical Students:* candidates for admission to the College of Medicine. (See following section, ADMISSION TO THE COLLEGE OF MEDICINE).
8. *Veterinary Medicine Students:* candidates for admission to the College of Veterinary Medicine. (See following section, ADMISSION TO THE COLLEGE OF VETERINARY MEDICINE).
9. *Special Students:* applicants who do not fall in one of the above categories. (See following section, ADMISSION AS A SPECIAL STUDENT).
10. *Transient Students:* applicants who wish to enroll for one term only in order to complete work for transfer back to parent institution. (See following section, ADMISSION AS A TRANSIENT STUDENT).

TRAVELING SCHOLAR PROGRAM

The Traveling Scholar Program affords graduate students at State University System institutions an opportunity to take course work or conduct research activities at any of the other institutions in the System. Course work taken under the auspices of the Traveling Scholar Program at another university in the System will apply for graduate credit at the student's home institution. The deans of the graduate schools of the State universities are the coordinators of the Program. For details regarding the Traveling Scholar Program and approval to participate in it, a student must apply to the dean of the graduate school on his home campus.

UNDERGRADUATE INTERINSTITUTIONAL REGISTRATION PROGRAM

The Undergraduate Interinstitutional Registration Program enables students at State University System institutions to take advantage of special resources and programs available on another campus in the System but not available at their home institution, e.g., special course offerings, research opportunities, unique laboratories, overseas study programs, and library collections. Course work taken under the Undergraduate Interinstitutional Registration Program will be accepted for credit at the student's home institution. A student must be recommended to participate in the Program by his own academic dean, who will initiate a visiting arrangement with the appropriate dean at the host institution.

PERSONAL HEALTH HISTORY REQUIREMENT

A personal health history completed by you and reported on forms supplied by the University Physician are required prior to initial enrollment at the University of Florida. If your application for admission is approved, the health history form will be forwarded to you for you to complete and return to the University Physician. Your form should be received by the University Physician at least two weeks prior to your planned date of entrance.

ADMISSION AS A FRESHMAN

(APPLICANTS WHO HAVE NEVER ATTENDED COLLEGE)

When to Apply: No application will be considered for the Freshman Class more than one year in advance of the term for which entrance is sought. The best time to apply is the early part of the Senior year in Secondary School. Priority in admission to the Fall class will be given to qualified applicants whose applications and supporting records are received in the Admissions Office prior to March 1st. Applications for the Fall class received after March 1st will be considered on a "space available" basis only. The deadlines for receipt of applications for other terms are listed in the University Calendar.

Admission of students is on a selective basis. The availability of community junior colleges and other state universities in Florida has caused the Board of Regents to assign to the University of Florida a role in the total state system of higher education which demands that the entering Freshman Class be limited in number. Such limitation does not prevent students from subsequently applying for admission to upper division and professional schools of the University since they may attend junior colleges or other universities and if qualified, then transfer to the University's upper division colleges in accordance with rules printed elsewhere in this Catalog.

The requirements for admission set forth below are designated to give priority to those applicants whose potential on the basis of their record indicates the greatest likelihood of success and the obtaining of maximum benefits from the Lower Division program at the University of Florida.

A. Requirements for admission — Florida students

For consideration a student must meet the following minimums:

1. Graduation from an accredited secondary school.
2. Twelve academic units in college preparatory courses such as English, Foreign Languages, Mathematics (beginning with Algebra), Natural Sciences, and Social Sciences.
3. An overall "C" average in academic courses.
4. A total score of at least 840 on the Scholastic Aptitude Test (SAT) or a composite score of 17 or above on the American College Testing Program (ACT).
5. A record of good conduct. Major or continuing difficulty with school or other authorities may make an applicant ineligible regardless of academic qualifications.

Any Florida student who meets the above minimum admission requirements and is interested in attending the University of Florida is urged to submit an application. The University will do everything possible to accept all qualified applicants who apply before the application deadline date. If the number of qualified applicants exceeds the number that the University is permitted to enroll, admission will be on a selective basis. An applicant's total high school record including grades, test scores, educational objective and pattern of courses completed, rank in class, school recommendation and personal record will be considered in the selection process.

Composite pictures of the Scholastic Aptitude Test (SAT) results of recent Freshmen classes at the University of Florida indicate that more than 50 percent score 500 or above on the Verbal section and more than 75 percent score 500 or above on the Math section. In addition, more than 50 percent of each entering class has earned a "B" or better average in high school academic subjects. While there is no minimum grade average or test score which in itself assures a student of admission or success in college, prospective applicants are urged to discuss the meaning and implication of these data with their school counselors when considering the University of Florida.

B. Requirements for admission — Non-Florida Students.

Because of a limited entering Freshman class each Fall, only a small number of highly qualified students from states other than Florida may be admitted. The minimum requirements for consideration are essentially the same as for Florida students except that priority in consideration for admission will be given to those applicants who present scores of at least 600 on each section of the Scholastic Aptitude Test of the College Entrance Examination Board and an academic average of "B" or better.

OTHER INFORMATION OF INTEREST TO PROSPECTIVE FRESHMAN APPLICANTS

Early Admission

Applications for Early Admission (i.e. admission following completion of the Junior year in high school) from superior students are encouraged and will be considered on an individual basis by the University's Admissions Committee. Applications should be submitted in accordance with deadlines published in the University Catalog.

In addition to the application, the following items are needed for processing Early Admission applicants.

1. A written statement by the student setting forth reasons for requesting early admission.
2. An official transcript of the applicant's secondary school record covering the 9th, 10th and 11th years. Generally, an overall academic average of B+ is expected.
3. Results of either the Scholastic Aptitude Test (SAT) or the American College Testing Program (ACT). Generally, a score of approximately 600 on each section of the SAT or a composite score of 28 on the ACT is expected.
4. A letter of recommendation from the student's high school principal or guidance counselor. The letter should give specific reasons as to why the applicant would profit more from Early Admission than by completion of the Senior year in high school.

An applicant for Early Admission may be required to come to the campus for interviews by members of the Admissions Committee before a decision is made on the application. The Admissions Office will advise the applicant if interviews will be required after all of the above items have been received and evaluated. IMPORTANT: Please note that an applicant should NOT report for interviews until advised by the Admissions Office.

ADMISSIONS

The University of Florida provides numerous opportunities other than *Early Admission* by which a student may accelerate graduation. For additional information, please refer to the section of this catalog entitled *Time Shortened Degree Opportunities*.

Candidates' Reply Date. Applicants accepted for admission to the Fall Freshman class must indicate their enrollment plans within 30 days after acceptance.

Advance Housing Payment. Entering freshmen are required to make a housing deposit within 30 days after acceptance if they desire to live in University housing. The housing deposit, less a $10.00 service charge, is refundable until May 1st for applicants accepted for admission to the Fall Freshman Class.

Admission with Advanced Standing. The University of Florida is a participant in the Advanced Placement Program (APP) and in the College Level Examination Program (CLEP) of the College Entrance Examination Board. Under the Advanced Placement Program a student entering the University offers a nationally graded examination as evidence of completion of a college level course taken in high school. Depending on the results of the examination, the student may receive University credit for courses covering similar material or exemption from such courses without credit. Under the College Level Examination Program, the University grants credits for satisfactory scores in each of the five areas of the CLEP General Examinations. For further information, please refer to the section of the Catalog entitled *Time Shortened Degree Opportunities*.

Early Decision for Superior Students. Students with superior secondary school records (academic average at least 3.5) and Junior year high school SAT test scores (approximately 600 each on the verbal and mathematics sections) may apply for early decision. The student must certify that this is his only application and this statement must be supported by the signatures of his parents and appropriate school official. The completed application must be received by November 1, and, if admitted, the student must make his commitment to attend the University of Florida, accompanied by his housing payment, by December 1.

ADMISSION AS A TRANSFER STUDENT TO UNDERGRADUATE SCHOOLS AND COLLEGES

(APPLICANTS WHO HAVE ATTENDED ANY COLLEGE OR UNIVERSITY, REGARDLESS OF THE AMOUNT OF TIME SPENT IN ATTENDANCE OR CREDIT EARNED, ARE CONSIDERED AS TRANSFER STUDENTS.)

When to Apply: Applications may be submitted not more than one year in advance and applicants are strongly urged to apply at least six months prior to the date they plan to enter. Applicants should refer to the DEADLINES FOR APPLYING section of the University Calendar published in this catalog as well as consult the portion of this catalog pertaining to the individual college to which they intend to apply for specific information regarding application deadlines. (NOTE: In a number of undergraduate programs, the sequence of professional courses begins ONLY in the Fall Term of the Junior year.) An applicant who waits until the last possible date to file an application may find that it is impossible to furnish the necessary supporting records in time to permit a decision for the term that admission is desired.

In this section are listed the general requirements for admission of undergraduate transfer students. It should be observed however, that ADMISSION TO THE UNIVERSITY IS A SELECTIVE PROCESS AND SATISFYING THESE GENERAL REQUIREMENTS DOES NOT GUARANTEE ACCEPTANCE. Attention is also directed to the fact that Upper Division colleges of the University have established enrollment quotas because of limitations of space and facilities. Transfer applicants who meet the minimum admission requirements will be referred to the selection committee of the appropriate college for consideration of their enrollment within the college's established quotas.

A transfer applicant should refer to the General Information and Colleges sections of this catalog for an explanation of the academic organization of the University.

If an applicant is accepted for admission, courses which reasonably parallel the curriculum of the University of Florida that were completed with grades of "D" or higher at other accredited institutions are acceptable for transfer credit. It is the prerogative of the college (within the University) that administers the work for the degree being sought to determine how transfer credit may be used in satisfying that degree's specific course requirements. Not more than 64 semester hours (or 96 quarter hours) of credit transferred from or through a junior college may be applied toward the total credit hours requirement for a University of Florida degree. Courses completed at a junior college in excess of a total of 64 semester hours may serve to meet specific course requirements for a University of Florida degree but the credit hours represented by those courses will not reduce the number of credit hours to be completed at the University.

A. FLORIDA PUBLIC JUNIOR COLLEGE GRADUATES

This section applies ONLY to students seeking to transfer directly from a Florida public junior college with the Associate in Arts degree in a university parallel program. All other junior college applicants and undergraduate transfer applicants from four-year or upper division colleges and universities should consult Section B which follows.

The University of Florida subscribes to the Articulation Agreement between the State Universities and Public Junior Colleges of Florida. Under this agreement, any graduate of a State approved Florida public junior college is eligible for admission to non limited access programs at the University if the student has completed the university parallel program and received the Associate in Arts degree, provided the degree has been awarded on the basis of the following:

1. At least 60 semester hours (90 quarter hours) of academic work exclusive of occupational courses;
2. An approved general education program of at least 36 semester hours (54 quarter hours);
3. A grade point average of at least 2.0 on a 4.0 system on all college level academic courses attempted.

By law, all applicants seeking admission to a program in teacher education must submit scores on the Scholastic Aptitude Test (SAT) or the American College Test (ACT). These scores should be forwarded to the Admissions Office as soon as possible after an application for admission has been submitted. Some colleges with enrollment quotas may require applicants to submit test scores as a part of their selection process. When test scores are required by an Upper Division college, the applicant will be advised directly by that college.

Within space and fiscal limitations, applicants who have satisfied the above minimum requirements will be considered for admission at the Junior level to an Upper Division college. Such students may be required to take additional preprofessional courses not completed at the junior college. However, such courses will not reduce the number of credits required in the Upper Division for a degree.

B. TRANSFER APPLICANTS OTHER THAN GRADUATES FROM A FLORIDA PUBLIC JUNIOR COLLEGE

This section applies to students seeking to transfer from a Florida public junior college without an Associate in Arts degree in a university parallel program and to all undergraduate transfer applicants from other colleges or universities.

I. Requirements for admission to the Lower Division

1. *Eligible for admission as a beginning Freshman:* An applicant must have been eligible for admission to the University of Florida as a beginning Freshman in order to be considered for admission to the Lower Division as a transfer student. (See section, ADMISSION AS A FRESHMAN.)

2. *Good standing:* An applicant must be in good standing

and eligible to return to any institution previously attended. A student who for any reason will not be allowed to return to an institution previously attended cannot be considered for admission to the University of Florida.

3. *Satisfactory record:* An applicant must have an average of "C" or higher (as computed by the University of Florida) on all work attempted at each institution previously attended. No application can be considered until complete official transcripts of all the applicant's undergraduate work are in the possession of the Admissions Office. An official transcript must be furnished from each institution attended regardless of length of attendance or credit earned. Official supplementary transcripts are required, as soon as they are available, for any work completed after making application. Since an average of "C" or higher is required for graduation from the University of Florida, one who has failed to maintain this average at another institution is not eligible for admission. Regardless of the average earned, courses completed at other institutions must reasonably parallel the curriculum at the University of Florida.

4. *Satisfactory test scores:* An applicant who will present less than 60 semester hours (or 90 quarter hours) of acceptable college courses (including not more than 4 semester hours in Military Science and/or basic required Physical Education) as credit for advanced standing must present satisfactory scores on an acceptable general ability test. Any of the following tests may satisfy this requirement. If taken prior to first enrollment in college: the Florida Twelfth Grade Placement Test, the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board, or the American College Testing Program (ACT). Otherwise, the applicant should furnish scores on the School and College Ability Test, College Level (SCAT). The minimum acceptable score on these tests will vary with the amount and quality of academic study the applicant will have completed prior to transfer.

5. *Satisfactory conduct record:* An applicant must present a satisfactory conduct record. Regardless of other qualifications, an applicant who has experienced serious or continuing difficulty with school or other authorities because of improper conduct may find his application disapproved.

II. Requirements for admission to an Upper Division College.

With the exception of items 1 and 4, an applicant for admission to an Upper Division College must satisfy the requirements listed above for admission to the Lower Division. By law, all applicants seeking admission to the upper division for January, 1983 or later will be required to take the College Level Academic Skills Program. By law, all applicants seeking admission to a program in teacher education must submit scores on the Scholastic Aptitude Test (SAT) or the American College Test (ACT). These scores should be forwarded to the Admissions Office as soon as possible after an application for admission has been submitted. Some colleges with enrollment quotas may require applicants to submit test scores as a part of their selection process. When test scores are required by an Upper Division college, the applicant will be advised directly by that college. In addition, the following requirements must also be satisfied.

1. *Advanced Standing credit.* An applicant must present a minimum of 60 semester hours (or 90 quarter hours) of acceptable college courses, not more than four semester hours of which are in Military Science and/or basic required Physical Education as credit for advanced standing.

2. *Specific course requirements.* An applicant must present the courses listed as required for admission by the Upper Division college of his choice, or acceptable substitutes, as part of the courses offered for advanced standing credit. (See appropriate college section of this catalog). Upon recommendation by the Upper Division college, an applicant lacking some of the specific course requirements may be permitted to enroll in that college and complete them if he meets all other requirements for admission; however, such Lower Division courses will not reduce the number of credits required in the Upper Division for a degree.

ADMISSION AS A POSTBACCALAUREATE STUDENT

When to Apply: Applications may be submitted up to one year in advance and applicants are urged to apply as early as possible. Applications MUST BE SUBMITTED by the deadline established for the term. Some departments have found it necessary to establish deadlines for the receipt of applications and their supporting records that are earlier than the deadlines established for the University and published in the catalog. All applicants are advised to refer to the DEADLINES FOR APPLYING section of the University Calendar published in this catalog and to check with the appropriate department regarding departmental deadlines.

Postbaccalaureate students may wish to enroll in courses for any of the following reasons:

1. To validate undergraduate records from non-accredited or unevaluated institutions;
2. To expand their academic background;
3. To earn a second bachelor's degree, or
4. To complete prerequisite courses for admission to graduate study at some future date.

Application for admission as a postbaccalaureate student must be made to the Admissions Section, Office of the Registrar, on forms supplied by that office. Applications are referred to the appropriate department for approval or disapproval. No application will be considered unless complete official transcript(s) of all the applicant's prior collegiate work are in the possession of the Admissions Office, and no transcript will be considered official unless it is received directly from the Registrar of the institution at which the work was performed. Official supplementary transcript(s) are required, as soon as they are available, for any work completed after the application was filed.

Students who desire postbaccalaureate status in the College of Education to obtain teacher certification must provide the college with a clear statement of certification goals as a part of the requirements for admission. Interested students should contact the college of Education for further information.

All students whose native tongue is not English making application for admission as a Postbaccalaureate Student must submit acceptable scores on Test of English as a Foreign Language (TOEFL). A minimum TOEFL score of 500 is required for admission to the College of Agriculture. A minimum TOEFL score of 550 is required for admission to all other colleges.

ADMISSION TO THE GRADUATE SCHOOL

When to Apply: Applications may be submitted up to one year in advance and applicants are urged to apply as early as possible. Applications MUST BE SUBMITTED by the deadline established for the term. Some departments have found it necessary to establish deadlines for the receipt of applications and their supporting records that are earlier than the deadlines established for the University and published in the catalog. All applicants are advised to check with the appropriate department regarding departmental deadlines.

Application for admission to the Graduate School must be made to the Admissions Section, Office of the Registrar, on forms supplied by that office and at the times stipulated in the University Calendar. Applications which meet minimum standards for admission are referred to the graduate selection committees of the various colleges and divisions for approval or disapproval.

No application will be considered unless the complete official transcripts of all the applicant's undergraduate and graduate work are in the possession of the Admissions Sec-

tion, and no transcript will be accepted as official unless it is received directly from the Registrar of the institution in which the work was done. Official supplementary transcripts are required, as soon as they are available, for any work completed after making application.

In general, no student who is a graduate of a non-accredited institution will be considered for graduate study in any unit of the University.

All foreign students whose native tongue is not English making application for admission to the Graduate School of the University of Florida must present their scores on TOEFL (Testing of English as a Foreign Language). Each applicant is asked to write TOEFL Educational Testing Service, Princeton, New Jersey, U.S.A., requesting a Bulletin of Information and registration form. It is important to remember that final consideration can not be granted a foreign student's application for admission until his scores on this test are received by: Admission Section, Office of The Registrar, University of Florida, Gainesville, Florida, U.S.A.

Undergraduate Record: Unqualified admission to the Graduate School is dependent upon the presentation of a baccalaureate degree from an accredited college or university with an average of B for the Junior and Senior years. In some units of the Graduate School and on the more advanced levels of graduate study, an undergraduate average considerably above B may be required. In some units admission may be considered with an undergraduate average slightly below B. College graduate admission selection committees take into account not only the general grade average, but the distribution of the course work and the quality and extent of preparation for the graduate program which the student proposes to undertake.

While the general admissions requirements described above apply to both master's and doctoral candidates, it should be noted that doctoral candidates must meet certain additional requirements, which vary according to the programs established by the departments and colleges. Furthermore, it is desirable for students planning to enter certain colleges and departments to have a reading knowledge of one foreign language.

Graduate Record Examination: A satisfactory average score on the Graduate Record Examination is required for admission. Each applicant for admission must submit scores on the aptitude test of the GRE, but either at the request of the department concerned or on his own volition, the applicant is encouraged to submit in addition the score on one or more advanced subject-matter tests of the GRE. The scores on all tests taken will be weighed in regard to admission.

The GRE is given six times a year — in October, December, January, February, April and June — at a great many locations in the United States, including Gainesville, Florida. To determine exact dates and the most convenient locations, students should write to the Educational Testing Service, Princeton, New Jersey. Applications are required several weeks prior to the examination, and scores are received about a month after the examination. Hence, it is necessary to apply to take the GRE in early September for admission to the University in January; in early January for admission in May or June; and in early March for admission in August. Other GRE examinations are given for which application must be made in November, December or May, but the GRE examinations indicated above are the ones best correlated with the University's admission deadlines.

Graduate Study in Business Administration.—Students applying for admission to the Graduate School for study in the College of Business Administration may substitute satisfactory scores on the Graduate Management Admission Test (GMAT) for the Graduate Record Examination. Students applying for admission to the Master of Business Administration (MBA) program *must* submit satisfactory scores on the GMAT. Applicants are requested to contact the Educational Testing Service, Princeton, New Jersey, for additional information.

Graduate Study in Law.—Students applying to the graduate program leading to the degree Master of Laws in Taxation must submit satisfactory scores on the Law School Admissions Test (LSAT).

ADMISSION TO THE COLLEGE OF DENTISTRY

When to Apply: The Application Request Card for the American Association of Dental Schools Application Service (AADSAS) may be obtained after May 15, from the Office of Admissions, College of Dentistry. The request card should be sent directly to the AADSAS, P. O. Box 1003, Iowa City, Iowa 52240. Upon receiving the application materials from the AADSAS, the completed forms and supporting documents must be returned directly the AADSAS no later than October 15 of the year prior to anticipated enrollment in dental school. Failure to meet this deadline will prevent the Dental Admissions Committee from evaluating your record.

The data compiled by the AADSAS will be carefully evaluated by the Dental Admissions Committee and promising applicants will be sent Formal Application forms which request additional information. The submission of a preprofessional committee evaluation or letters of recommendation from people in academics will not be necessary until the Formal Application forms are filed. The Formal Application forms and supporting materials should be submitted as early as possible, but no later than November 15 of each application year.

The College of Dentistry aspires to attract students of the highest caliber into its various programs. High standards of scholastic achievement, moral character, and motivation are expected of the applicant. The student of dentistry must possess a high basic aptitude supplemented by an academic preparation of the highest order because of the vast area of science which must be mastered by the dentist. The highly personal relationship between patient and dentist places the latter in a position of trust, which demands maturity, integrity, intellectual honesty, and a sense of responsibility. A broad representation of the ethnic mixture of the State is sought in the student body through an active recruitment program. The College strictly adheres to the principle of ethnic, racial, religious and social equality among its student body and faculty.

Generally, students applying for admission should plan to complete the requirements for a bachelor's degree. However, qualified students may be accepted without fulfilling the degree requirements, provided they show evidence of sufficient preparation for the study of dentistry. Applicants with an overall "B" average as a minimum will receive strongest consideration for admission to the College of Dentistry.

Every applicant must take the Dental Admission Test, preferably in the Spring preceding the submission of his Initial Application or, at the latest, the Fall testing period. The test is given twice a year at many college and university testing centers. Following a review of all application materials and Dental Admission Test scores by the Dental Admissions Committee, interviews with members of this Committee will be arranged for competitive applicants.

(See also more detailed description in the College of Dentistry bulletin.)

ADMISSION TO THE COLLEGE OF LAW

When to Apply: Applications can be accepted as indicated in the College of Law Catalog.

Beginning Students: All applicants for admission to the College of Law must have received a baccalaureate degree from a regionally accredited college or university and achieved a satisfactory score on the *Law School Admission Test.*

The minimum acceptable score on the Law School Admission Test required for admission varies with the total grade point average achieved by the applicant on all college work attempted by the applicant prior to receipt of the first bachelor's degree. The lower the grade point average, the higher the Law School Admission Test Score must be to qual-

ify for admission. All applicants (including present and former University of Florida students) must register with the Law School Data Assembly Service (LSDAS) in lieu of requesting transcripts from each institution of higher education attended. For more detailed information on admission to the College of Law, please see the College of Law Catalog.

Advanced Standing Students: For information on admission to the College of Law with advanced standing see the College of Law Catalog.

ADMISSION TO THE COLLEGE OF MEDICINE

When to Apply: Because the number of places in the first year class of the College of Medicine is limited, it is important that a candidate make application as early as possible during the Summer or Fall of the year preceding his intended date of entry.

Personal qualities of high order — character, responsibility and maturity — are the primary requirements for admission. The student must have demonstrated superior intellectual achievement. A bachelor's degree is strongly recommended. The quality of the academic background as well as the performance of the student in relation to the load attempted, will be weighed. A genuine interest in human welfare is important. Efficient methods of study and effective powers of reasoning are essential.

The College admits both men and women. A limited number of out-of-state students, in proportion to the number in the University as a whole, may be admitted. Students who have failed academically or are ineligible to continue in another medical school will not be admitted.

Applications from students who are presently enrolled in another medical school will be considered provided (1) the student is eligible to continue in his present medical school, (2) the school he is now attending is a member of the Association of American Medical Colleges, and (3) space is available.

Prospective applicants must take the Medical College Admissions Test, preferably, by the Spring preceding the submission of the application. A personal interview will be required for final acceptance.

Graduate students who are candidates for the Ph.D. degree in medical sciences should apply through the Graduate School.

(See also more detailed description in the College of Medicine catalog.)

ADMISSION TO THE COLLEGE OF VETERINARY MEDICINE

When to Apply: Application forms are available between September 1 and December 1 from the Office of the Dean for Student Services, College of Veterinary Medicine. The application package (residency status, application forms, fees, letters of recommendation, GRE scores, etc.) must be received by the Admissions Office by 4:30 P.M., December 15, for the applicant to be considered for admission.

Candidates seeking admission to programs leading to the Master of Science or Doctor of Philosophy degree with emphasis on animal disease problems should apply through the Graduate School.

(See also the section on the College of Veterinary Medicine on page 187.)

ADMISSION AS A SPECIAL STUDENT

When to Apply: Each application for admission as a special student must be reviewed by the University Admissions Committee. Applications cannot be considered if they are received after the dates specified in the Catalog; and it would be desirable for a person considering application as a special student to initiate such an application at least three months in advance of the term he wishes to enter, in order to allow time for additional evidence to be presented if it should be requested by the Admissions Committee.

Special students may be admitted to the various schools and colleges of the Upper Division only by approval of the University Admissions Committee. Each case will be considered on an individual basis. Applications for admission as a special student must include: (1) records of previous educational experience (high school or college transcripts); (2) a statement as to the type of studies to be pursued; (3) a brief statement of the reason or reasons for selecting a special program other than a regular one; (4) satisfactory evidence of ability to pursue these studies — for example, a student to enroll as a special student for some technical courses and who feels qualified to do so by reason of employment or other experience; (5) satisfactory scores on such ability or achievement tests as may be prescribed in individual cases by the University Admissions Committee.

ADMISSION AS A TRANSIENT STUDENT

Subject to availability of faculty, space and facilities, a regular undergraduate student in good standing at another accredited collegiate institution may be permitted to enroll at the University of Florida as a transient student in order to complete work to transfer back to the parent institution. No evaluation will be made of work previously completed and it is the student's responsibility to secure such approval as the parent institution may require.

Transient students are registered as NON-DEGREE students and no application for admission is required. The appropriate forms for enrolling as a NON-DEGREE student should be requested from the Office of the Registrar. Since registration is subject to the availability of space, approval to enroll as a non-degree student cannot be given prior to the first day of classes in the term for which the student wishes to enroll.

Credit earned in a NON-DEGREE status is not automatically applicable to a University of Florida degree should the student later be admitted in a regular status. Admission as a NON-DEGREE student in no way implies future admission as a regular student to the University of Florida.

ADMISSION INFORMATION FOR VETERANS ADMINISTRATION, AND SOCIAL SECURITY

The University of Florida is approved for the education and training of veterans under all public laws now in effect, i.e., Chapter 31, Title 38, U.S. Code (Disabled Veterans), Chapter 32, Title 38, U.S. Code (Veterans Educational Assistance Program), Chapter 34, Title 38, U.S. Code (Cold War G.I. Bill), and Chapter 35, Title 38, U.S. Code (Children of Deceased or Disabled Veterans). Students who may be eligible for educational benefits under any Veterans Administration program are urged to contact the local Veterans Administration representative as soon as accepted by the University. Students expecting to receive benefits under one of these programs must file an application for benefits. No certification can be made until the application is on file. Benefits are determined by the Veterans Administration and the University certifies according to their rules and regulations.

Inquiries relating to Social Security Benefits should be directed to the student's local Social Security Office. The Office of the Registrar will submit enrollment certificates issued by the Social Security Administration for students eligible to receive educational benefits under the Social Security Act, providing the undergraduate student registers for twelve semester hours or more.

A full time load for VA or Social Security benefits is twelve hours per semester for undergraduates.

ADMISSION INFORMATION FOR FOREIGN STUDENTS

All foreign students whose native tongue is not English making application for admission to the University of Florida must present their scores on TOEFL (Test of English as a Foreign Language). Each applicant is asked to write TOEFL, Educational Testing Service, Princeton, New Jersey, U.S.A., requesting a Bulletin of Information and registration form. It is important to remember that final consideration cannot be granted a foreign student's application for admission until his scores on this test are received by: Admission Section, Office of the Registrar, University of Florida, Gainesville, Florida, 32611, U.S.A.

Foreign students whose native tongue is English will be required to submit test results as indicated in the appropriate sections of this catalog before an application for admission will be considered. Undergraduate students should submit scores on the Scholastic Aptitude Test (SAT) or the American College Test (ACT). Graduate applicants should submit scores on the Graduate Record Examinations (GRE) or the Graduate Management Admissions Test (GMAT) as appropriate.

Expenses

APPLICATION FEE

Each application for admission to the University must be accompanied by an application fee of $15.00. Application fees are nonrefundable. Further instructions will be found in the Admissions section of this catalog.

GENERAL

STUDENTS SHOULD BRING SUFFICIENT FUNDS, OTHER THAN PERSONAL CHECKS TO MEET THEIR IMMEDIATE NEEDS. Personal checks will be accepted for the exact amount of fees.

CLASSIFICATION OF STUDENTS—FLORIDA OR NON-FLORIDA

(Section 6C—7.05, Florida Administrative Code)

(1) For the purpose of assessing registration and tuition fees, a student shall be classified as a "Florida" or "non-Florida" student.

(a) A "Florida student" is a person who has domicile in and who shall have resided in the state of Florida for at least twelve (12) consecutive months immediately preceding the first day of classes of the academic term in which the student enrolls. In determining residency, the university may require evidence such as voter registration, driver's license, automobile registration, location of bank account, rent receipts or any other relevant materials as evidence that the applicant has maintained continuous residency. Continuous residency does not require the physical presence of a student for the entire twelve month period. If such a student is a minor, it shall mean that the parent or parents, or legal guardian of the student shall have domicile in and have resided in the state of Florida for the period stated above. "Florida student" classification shall also be construed to include students who hold an Immigration and Naturalization Form 1-151, Resident Alien Registration Receipt Card, or Cuban Nationals or Vietnamese Refugees who are considered as Resident Aliens, provided such students meet the residency requirement stated above and comply with subsection (2) below. The burden of establishing facts which justify classification of a student as a resident and domiciliary entitled to "Florida student" registration rates is on the applicant for such classification.

(b) In applying this policy:

1. "Student" shall mean a person admitted to the institution or a person allowed to register at the institution on a space available basis.

2. "Minor" shall mean a person who has not attained the age of 18 years, and whose disabilities of minority have not been removed by reason of marriage or by a court of competent jurisdiction.

3. "Domicile" for fee paying purposes shall denote a person's true, fixed, and permanent home and place of habitation. It is the place where the applicant lives and remains and to which he expects to return when he leaves, without intent to establish domicile elsewhere.

4. "Parent" shall mean a minor's father or mother, or if there is a court appointed guardian or legal custodian of the minor applicant, it shall mean the guardian or legal custodian.

5. The term "dependent student," as used in this rule is the same as a dependent as defined in sections 151(e)(1)(2)(3) and (4) of the Internal Revenue Code of 1954. A copy of these provisions in the Internal Revenue Code of 1954 is incorporated in this rule by reference.

6. A "non-Florida" student is a person not meeting the requirements of subsection (a) above.

(2) In all applications for admission or registration at the institution on a space available basis, a Florida applicant, or if a minor, the parent or legal guardian of the minor applicant, shall make and file with such application a written statement, under oath, that the applicant is a bonafide citizen, resident, and domiciliary of the state of Florida, entitled as such to classification as a "Florida student" under the terms and conditions prescribed for citizens, residents, and domiciliaries of the state of Florida. All claims to "Florida student" classification must be supported by evidence as stated in 6C-7.05(1) if requested by the registering authority.

(3) A "non-Florida student" or, if a minor, his parent or guardian, after having been a resident and domiciliary of Florida for twelve (12) consecutive months, may apply for and be granted reclassification prior to the first day of classes of any subsequent term; provided, however, that those students who are non-resident aliens or who are in the United States on a non-immigration visa will not be entitled to reclassification. An application for reclassification as a "Florida student" shall comply with provisions of subsection (2) above. An applicant who has been classified as a "non-Florida" student at time of original enrollment shall furnish evidence as stated in 6C-7.05(1) to the satisfaction of the registering authority that the applicant has maintained continuous residency in the state for the twelve months required to establish residence for tuition purposes. In the absence of such evidence, the applicant shall not be reclassified as a "Florida student." If the request for reclassification and the necessary documentation is not received by the registrar prior to the last day of registration for the term in which the student intends to be reclassified, the student will not be reclassified for that term.

(4) Unless evidence to the contrary appears, it shall be presumed by the registering authority of the institution at which a student is registering that:

(a) The spouse of any person who is classified or is eligible for classification as a "Florida student" is likewise entitled to classification as a "Florida student." This provision will not apply in the case of students who are non-resident aliens or who are in the United States on a non-immigration visa.

(b) If an applicant's eligibility for classification as a "Florida student" is based on the residency of the spouse, the spouse shall make and file with the application a written statement under oath, that said person is the spouse of the applicant and a bonafide citizen, resident and domiciliary of the state of Florida, entitled as such to classification as a "Florida student."

(c) No person over the age of 18 years shall be deemed to have gained residence while attending any educational institution in this state as a full-time student, as such status is defined by the Board of Regents, in the absence of a clear demonstration that he has established domicile and residency in the state, as provided under subsection (3) above.

(d) Any "Florida student" who remains in the state, after his parent previously domiciled in Florida or stationed in Florida on military orders removes from this state, shall be entitled to remain classified as a "Florida student" so long as his or her attendance at a school or schools in Florida shall be deemed "continuous." However, such student claiming continuous attendance must have been enrolled at a school, college or university for a normal academic year in each calendar year, or the appropriate portion or portions thereof, from the beginning of the period for which continuous attendance is claimed. Such a student need not attend summer sessions or other such intersession beyond the nor-

mal academic year in order to render his attendance "continuous."

(5) Appeal from a determination denying Florida student status to any applicant therefor may be initiated after appropriate administrative remedies are exhausted by the filing of a petition for review pursuant to Section 120.68 F.S. in the District Court of Appeal in the appellate district in which the institution maintains its headquarters or where a party resides.

(6) Any student granted status as a "Florida student," which status is based on a sworn statement which is false shall, upon determination of such falsity, be subject to such disciplinary sanctions as may be imposed by the president of the university.

(7) Special Categories—The following categories shall be treated as Florida residents for tuition purposes if adequate documentation is provided:

(a) A member of the Armed Services of the United States who is stationed in Florida on active duty pursuant to military orders, the spouse and dependent students.

(b) A veteran of the Armed Forces of the United States of America with twenty (20) or more years of active military service, including the spouse and dependent students of such veteran's immediate family, provided that the veteran is in Florida at time of retirement or moves to Florida within one year following retirement and files a declaration of Florida domicile.

(c) Full-time elementary, secondary, and community college faculty members under current teaching contracts in the state of Florida and their spouses and dependent students.

(d) Full-time faculty, administrative and professional and career service employees of the University System and their spouses and dependent students.

(e) A student certified by his respective state for participation in the Academic Common Market Program of the Southern Regional Education Board who is enrolled in a program approved by the Florida Board of Regents.

(f) Florida domiciliaries living in the Panama Canal Zone who have not established domicile elsewhere, including the spouse and dependent students.

(g) Florida residents who had their residency in Florida interrupted by service in the U. S. armed forces, the Peace Corps or other similar volunteer organizations fostered by the United States government shall be deemed to have had residency in Florida during times of service in the aforementioned organizations.

(8) Reciprocal Agreements. The Board of Regents may enter into agreements with appropriate agencies and institutions of higher education in other states and foreign countries providing for the reciprocal exchange of students enrolled and prospective in higher educational institutions to facilitate utilization of public higher educational institutions in this State and other states or countries. Such agreements may include provisions for waiver or reduction of non-resident tuition for designated categories of students and may include contractual payments to such other state or country, subject to the availability of appropriations. Such agreements shall have as their purpose the mutual improvement of educational advantages for residents of this State and such other states or countries with whom agreements may be made.

To establish Florida residence a student applying for admission should complete the residence affidavit on the application form.

To change status from non-Florida a student must present to the Registrar's Office a copy of the Declaration of Intent and the completed Residence Affidavit Form. To claim the military exception (7a), the student must furnish the Registrar's Office a copy of the military orders showing assignment to Florida. A public school official must submit a written statement from his or her superior as to his or her employment status. A University employee must submit a statement from the personnel office as to his or her employment status.

DEFINITION OF REGISTRATION

Registration consists of three major components:

1. The registrant must supply information requested by the university for the purpose of establishing and administering academic, financial and community relationships between the university and the student;

2. The registrant must supply course and schedule information needed to establish and administer his matriculation in particular departments, courses and sections;

3. The registrant must pay all assessed registration and tuition fees as well as satisfy all current or delinquent amounts payable to the university.

REGISTRATION AND INSTRUCTIONAL FEES

The University Calendar appearing at the front of this Catalog sets forth the beginning and ending dates of each semester.

Fees are payable on the dates listed in the University of Florida Calendar appearing at the front of the Catalog or the dates shown on statements sent those participating in Advance Registration. Payment of fees is an integral part of the registration process. Registration (including payment of fees) must be completed on or before the proper due date. Student Financial Services, The Hub, must be provided a properly executed authorization for payment in cases where fees are to be paid by a previously approved loan, scholarship, etc., prior to the deadline published in the Calendar.

FEE LIABILITY

LIABILITY IS INCURRED FOR ALL CREDIT HOURS REMAINING ON A STUDENT'S SCHEDULE AT THE CLOSE OF THE DROP/ADD PERIOD EACH SEMESTER.

ASSESSMENT OF FEES

Students must assess and pay their own fees. UNIVERSITY PERSONNEL WILL NOT BE HELD ACCOUNTABLE FOR PROPER ASSESSMENT OR MATHEMATICAL ACCURACY OF CALCULATIONS.

FEE STRUCTURE WAS UNDER REVISION AT THE TIME OF THIS PRINTING. FEE INFORMATION CAN BE OBTAINED AFTER JULY 1, 1982, BY CONTACTING STUDENT FINANCIAL SERVICE, ROOM 100 THE HUB, GAINESVILLE, FLORIDA 32611. (This includes all fees and medical, dental or veterinary programs and the student health fee.)

NOTE: A student who is registered for twelve (12) hours per semester is considered as full-time for purposes of Student Financial Aid.

STATE EMPLOYEES
FREE COURSE ENROLLMENT

Detailed information on the waiver of registration fees for permanent full-time employees of the state may be obtained from the Office of the Registrar.

Those who have been employed on a permanent full-time basis for at least six months may be permitted to enroll for six credit hours per term on a space available basis only.

STUDENT HEALTH FEE

STUDENTS WHO REGISTER FOR NINE OR MORE CREDIT HOURS DURING THE FALL AND SPRING SEMESTERS MUST PAY A STUDENT HEALTH FEE. The Student Health Fee is optional for students who register for fewer hours than those shown above.

HEALTH FEES are due by the regular fee payment deadlines.

WAIVER OF HEALTH AND STUDENT ACTIVITY AND SERVICE FEES

The University Controller may waive the Student Health Fee and the Service and Activity Fee for students participating in such off-campus credit programs as the Mexican Law Summer Program and the Utrecht Program.

These fees may also be waived at the discretion of the Controller for those whose studies required them to be off-campus for an entire semester or for such a duration as to preclude their use of university facilities funded from these fees.

A request for approval of such a waiver should be originated by the dean or department chairman in charge of the program upon request from the student enrolled in the program.

Approved waivers must be delivered to Student Financial Services, the HUB, prior to the deadline for fee payments shown in the front of this catalog for the semesters requested. Waivers of this type will not be processed after this date nor shall refunds be issued.

CANCELLATION AND REINSTATEMENT.

1. The university will cancel the registration of a student whose fee account for enrolled instructional courses is in arrears beyond the close of business on the twenty-eighth day after the opening day of classes. A student whose registration is cancelled is not entitled to a refund beyond the circumstances covered under the refund policy.

2. Reinstatement will require approval of the university, payment of all delinquent liabilities and may include payment of a reinstatement fee of $25.00. At no time will a student be assessed more than $25.00 per term in late fees.

A student whose registration has been cancelled or flagged must request a reinstatement letter or request his records be cleared at Student Financial Services, the HUB. To expedite reinstatement, the student should deliver the letter to Registrar Records, Room 34, Tigert Hall.

DEADLINES

Students are reminded that deadlines are enforced strictly. The University does not have the authority to waive the late and/or reinstatement fees unless it has been determined that the University is primarily responsible for delinquency in a student account or that extraordinary circumstances warrant such waiver.

LOCAL ADDRESS

IT IS THE RESPONSIBILITY OF THE STUDENT TO BE SURE THAT A CORRECT CURRENT LOCAL ADDRESS IS ON FILE WITH THE REGISTRAR AT ALL TIMES. Change of Address forms may be obtained from the Registrar's Office.

PICTURE I.D.

A CURRENT VALID PHOTO I.D. MUST BE PRESENTED IN ORDER TO TRANSACT BUSINESS AT THE OFFICE OF STUDENT FINANCIAL SERVICES AND TO CASH CHECKS AT THE STUDENT UNION AND CAMPUS BOOKSTORE.

SPECIAL FEES AND CHARGES

AUDIT FEE. Fees for audited courses are the same as those listed above for Florida students. The audit fee is the same for Florida and non-Florida students.

COLLEGE LEVEL EXAMINATION PROGRAMS. Examinations are administered on campus on the third Saturday of every month. Applications should be completed in the Office of Instructional Resources, 1012 GPA, fifteen working days before the day a test is to be given. The fee for each examination is $22.00. Checks should be payable to College Level Examination Program.

GRADUATE RECORD EXAMINATION. The Aptitude Test of the Graduate Record Examination is required for admission to the Graduate School. A fee of $20.00 covers the cost of this examination. These fees are payable to the Educational Testing Service, Princeton, New Jersey 08540.

GRADUATE SCHOOL FOREIGN LANGUAGE TEST. All students wishing to be certified as proficient in a reading knowledge of French, German, or Spanish, must take the Educational Testing Service (ETS) Graduate School Foreign Language Tests. A fee of $12.50 covers the cost of each examination. This fee is payable at Student Financial Services, The Hub. Administrative arrangements to register for this examination will be made through the Graduate School Office.

LIBRARY BINDING CHARGE. Candidates for a graduate degree with a thesis or dissertation pay a $14.00 charge for the permanent binding of the two copies deposited in the University of Florida Library. This charge is payable at Student Financial Services, The Hub, by the date specified in the Graduate Catalog. A copy of the receipt must be presented at the Graduate School office.

The above charges may be subject to change without notice.

REFUND OF FEES

1. Fees will be refunded in full for:
   a. Credit hours dropped during the drop/add period.
   b. Courses cancelled by the University.
2. With the exception of amounts required for collection under bond and trust obligations, fees may be refunded in instances of:
   a. Involuntary call to active duty.
   b. Death of a student.
   c. Illness of the student of such duration or severity, as confirmed by a physician, that completion of the quarter is precluded, or
   d. Exceptional circumstances, upon approval of the University President.

Refunds may be requested at Student Financial Services, Room 114, the HUB. Proper documentation must be presented when a refund is requested. A waiting period for processing may be required. REFUNDS ARE NOT APPLIED AUTOMATICALLY AGAINST CURRENT OR SUBSEQUENT FEE LIABILITIES.

PAST DUE STUDENT ACCOUNTS

All students' accounts are due and payable at Student Financial Services, The Hub, at the time such charges are incurred.

University regulations prohibit registration, graduation, granting of credit or release of transcript for any student whose account with the University is delinquent.

Student Affairs

The following information describes the responsibilities of the various offices charged with assistance to students at the University of Florida. Additional information may be found in THE FLORIDA STUDENT GUIDE and THE CAMPUS DIRECTORY.

VICE PRESIDENT FOR STUDENT AFFAIRS

The Office of the Vice President for Student Affairs is a focal point for student concerns and strives to make the educational experience for students at the University of Florida as meaningful as possible. The Vice President for Student Affairs works to maintain and improve good communications and working relationships among and between students, faculty, and administration.

The goals of the Division of Student Affairs include: developing effective and efficient services and programs for students through the various departments within Student Affairs; integrating student affairs and academic affairs; directly involving students in the affairs of the institution; encouraging a sense of community among students, faculty, and administration; and increasing accessibility to and attractiveness of the University of Florida to a wide variety of persons.

The Office of the Vice President for Student Affairs is located in 123 Tigert Hall and is open to assist individual students and groups in matters concerning them. All students are encouraged to share in the responsibility for enabling the various divisions of the University of Florida community to meet the needs of students.

The Office of the Vice President for Student Affairs has administrative responsibility for the following offices and programs at the University of Florida: Office for Student Services, Student Housing Office, Office for Student Financial Affairs, Career Resource Center, J. Wayne Reitz Union, and University Counseling Center.

OFFICE FOR STUDENT SERVICES

The basic commitment of the Office of the Dean for Student Services at the University of Florida is to the total development of each individual student so that he or she might achieve full potential as a human being. Staff members strive to help students become self-directive in all their activities.

The purposes of the Office for Student Services are to contribute to the attainment of the educational goals of the University of Florida by: helping to structure appropriate experiences for the intellectual, psychological, social and physical development of each student; providing opportunities to meet students' need for personal attention; assisting students in the development of their career objectives; making students aware of and encouraging the use of the resources of the University; interpreting the goals, objectives and actions of the institution to students; encouraging the development of a sense of community among students, faculty and staff; helping students to develop purpose in their lives — a system of values of which they are aware and a sense of personal integrity; and assisting in the development of university policy and procedures.

Functions emerge from purposes, and the Office for Student Services at the University of Florida carries on these functions: individual advising, student advising, new student programs, coordination of programs for the physically handicapped, fraternity and sorority coordination, minority student affairs, veteran student affairs, committee responsibility for student petitions and admissions, women's programs, transfer student center, leadership skill development, student judicial affairs, student withdrawals, and students older than average programs.

The International Student Center and the Institute of Black Culture are also operational units of the Office for Student Services.

INTERNATIONAL STUDENT SERVICES

The International Student Services Center assists international students in adjusting to the changing life style and study habits in a new and sometimes perplexing environment. Special services are provided related to foreign educational and cultural backgrounds; language, legal, employment, academic, and personal matters; U.S. immigration and other government agency responsibilities as aliens; and currency exchange. The focus is on helping international students achieve their educational goals, while providing an insight into the culture of the United States through a program of social activities, orientation seminars, and community visits.

INSTITUTE OF BLACK CULTURE

The Institute of Black Culture is an educational tool for students at the University of Florida. It is a facility for enlightenment and black awareness where Afro-Americans can focus on their history, literature, art, culture, and life style. It is also a place where whites can develop a better understanding of blacks and an appreciation of black contributions to American society. The center sponsors programs, exhibits, and related activities.

SERVICES FOR HANDICAPPED STUDENTS

The Office for Student Services provides assistance for disabled students. Services are varied dependent on individual needs, and include but are not limited to: special campus orientation, registration assistance, securing auxiliary learning aids, and assistance in general University activities. Students with disabilities are encouraged to contact this office to obtain any needed assistance.

STUDENT HOUSING

The University of Florida offers its resident students a unique and exciting residence hall program. It is our belief that living on campus is a profitable educational experience that the students will long remember. Our desire is to provide accommodations and programs to meet the needs of our students while promoting the overall educational goals and objectives of the University.

The University of Florida has a large resident population composed of both in-state and out-of-state students, as well as students from 90 different foreign countries. Since our students come from differing environmental backgrounds and social experiences, they bring with them varying needs and expectations. Because of this diversity in our student body, we feel it would be a disservice to our students to take a unilateral approach in developing our residence hall program. Therefore, we have developed a program based upon alternatives and choices. Our students may select from various housing accommodations and environments the style that best fits their needs.

GENERAL INFORMATION

All freshmen who apply for admission to the University will receive a Housing Application Card upon approval of admission.

The University of Florida has no residency requirement. Entering students are free to choose either on-campus or off-campus accommodations. Students who voluntarily contract for on-campus housing normally must do so for the entire academic year (August to May) if enrolled. However, residents must be full-time students to be eligible to reside in the residence halls. Full-time enrollment for residency is defined as being enrolled in 9 credit hours if an undergraduate and 8 credit hours if a graduate student.

All students other than beginning freshmen *must initiate* their own arrangements for housing either by (1) applying to

the Director of Housing for assignment to University Housing facilities, or (2) obtaining accommodations in private housing (see Off Campus Housing).

All correspondence concerning application for University housing should be addressed to the Director of Housing, University of Florida, Gainesville, Florida, 32611. An application for residence hall space for students other than freshmen may be filled *at any time after an application for admission to the University has been approved. Prospective students are urged to apply as early as possible because of the housing demand.*

For all students other than beginning freshmen, application requests are considered first-come, first-served, on a space-available basis.

Roommate requests shall be considered if the individuals wishing to room together submit their applications on the same date, clearly indicate their desire to room together on their respective applications, elect the same visitation choice and assignment option, and are within similar academic classification.

Accessible housing is available for handicapped students. Students with special needs should indicate these needs on application requests.

ROOM STYLES

There are several room styles to fit the individual student's preference. The most prevalent is the double room, accommodating two students, with central floor bath facilities. Doubles are found in every area except Beaty Towers and range from air-conditioned units with phones in Hume Hall, to rooms with bay windows in Murphree.

All rooms have individual closets, storage space, dresser, bed and mattress, study desk and chairs.

Room rates vary, depending on such features as air conditioning, phone service, and floor space. See rental rate chart for specific charges.

Beaty Towers provide apartment living on campus. These two-bedroom apartments are fully contained with their own bathroom, study, kitchen, and two separate bedrooms for four students. Each apartment is fully carpeted, air conditioned, and has a telephone.

The Murphree Residential Area offers suites for two students. These non-air-conditioned facilities offer the student more individual living space. Each suite is made up of two rooms — one designed as a study and living area, the other as a bedroom with a lavatory.

THE RESIDENCE HALL STAFF AND STUDENT GOVERNMENT

A full complement of professional and para-professional staff members is available to assist students in becoming a part of campus life. The staff in residence act as referral agents in acquainting students with the many resources of the University. Our staff are also involved in a range of activities, from initiating social and intramural athletic programs to supplementing the various academic and developmental programs. In addition, staff members supervise and enforce policies designed to create an atmosphere conducive to learning and growth.

Each floor or section is supervised by an undergraduate Resident Assistant, the RA. Working in close conjunction with the RA is a graduate student, the Hall Director, who coordinates the area activities and insures, through the RAs, an environment for learning. The Assistant Director of Housing for Residence Life is a professional staff member and is responsible for the overall administrative and educational functions within the residence area. The entire housing staff is committed to servicing our students in the most effective and responsible way possible. The student is why the staff exists, and his/her development is our primary goal.

INTER RESIDENCE HALL ASSOCIATION

All students in the residence halls are encouraged to participate in organizational activities which can play a significant part in their educational, cultural, social, and recreational life. The Inter Residence Hall Association was established to help stimulate this participation. IRHA represents the collective interests of all resident students. The organization also serves as a channel of communication between residence area government councils, the University community, and other outside interests. This self-government program at both the hall and area levels offers residents the opportunity to help establish guidelines for group living and to assist in the planning of social and educational activities for their fellow students.

GENERAL SERVICES

TELEPHONES. A telephone is conveniently located in each student room except in Buckman Co-op. Each room telephone provides 24-hour service on campus and within the Gainesville area; cost of local service is included in the rental rate. Charges for long-distance calls are billed monthly to each room by Southern Bell, and each student is responsible for paying directly to the telephone company.

FOOD SERVICE. The Division of Housing is not directly affiliated with the University Food Service, and meals are not included in the housing rent payment. However, Servomation Mathias, a private food service operation, does maintain cafeterias and snackbars on campus and offers meal plans. Hume Hall and Broward Hall have cafeterias. Snackbars are located in Tolbert Hall and Graham Hall. Cafeterias are also located in Johnson Hall, the Reitz Student Union, and the Medical Center. It is the policy of the University to provide well-prepared food at the lowest possible price.

REFRIGERATOR RENTAL. Some residence areas have a refrigerator in every room, and cost is included in the room rent. If students bring their own refrigerators, they must make arrangements for installation and removal. No refund will be granted if a student brings his refrigerator to a hall already furnishing such units.

CUSTODIAL SERVICE. Each residence hall (except co-ops) has a staff of experienced custodians assigned to do general cleaning of public areas, bathrooms, lounges, and hallways. Other specific tasks are done in order to maintain good housekeeping throughout the halls. Student room cleaning is the responsibility of each resident.

INTERNAL SECURITY. Residence hall security is monitored by the residence hall staff; external building security generally is the responsibility of the University Police Department. Trained Housing Division Security Assistants patrol the areas immediately adjacent to the residence halls.

VENDING. Various vending machines are conveniently located in all residence halls for the comfort and pleasure of students desiring such services.

LAUNDRY FACILITIES. Coin-operated washers and dryers are provided in each residence area. Most students provide their own irons; however, some area governments provide irons on a check-out basis. Ironing boards are located on all floors.

SPECIAL HOUSING AREAS: CO-OP, HONORS, SCHOLARSHIP, GRAD, FAMILY

Recognizing the diversity of students' needs, the Division of Housing offers several different living environments.

New students are assigned primarily to double or triple rooms when first applying to the University, but once on campus they may qualify for specialized areas. Students with financial needs may interview for membership in one of the three cooperative living areas: Reid, Buckman, or North Hall. These co-ops offer reduced rental rates in exchange for student participation in the daily operational tasks, an equivalent of approximately thirty hours per semester.

Yulee Scholarship Hall provides single rooms for those students who qualify with a required minimum grade point average of 3.0 and are at least 21 years of age or have junior or above classification.

Qualifying freshmen may be invited to live in the "Honors Hall" (East Hall) with other selected freshmen and participate in an accelerated academic program. For more information as to your eligibility to qualify for the "honors" program

and the Honors Hall, contact the Director of Honors Program (telephone (904) 392-1521).

Upper Division and graduate students residing on campus generally live in apartments in Beaty Towers. Four students share an apartment with two bedrooms, complete kitchen and private bath. Apartments in Schucht Village are also available to students, with priority being given to students in medical or dental school.

FAMILY STUDENT HOUSING

Family Housing apartments are reserved for married students and their children (if any), and student parents without spouses who have dependent minor children under their legal care or who qualify under the provisions of Federal Regulations Title IX.

A student must have applied for admission to the University of Florida prior to applying for on-campus family student housing. He/she must be registered as a full-time student as defined by his/her college or school during the semester in which housing is desired in order to qualify for a family housing apartment assignment. In order to maintain occupancy, the student must make normal progress toward a degree as determined by his/her college or school. As applicable, proof of marriage will be required, or the necessary documents to support that a minor child(ren) is in the legal care of a student parent without a spouse.

Family housing facilities consist of one- and two-bedroom apartments, a few townhouses and efficiencies. These units come furnished, unfurnished, air conditioned and non-air conditioned. Most all Family Housing villages are located on campus or within a mile and a half of the University's main campus.

Family income limits are set by the Department of Housing and Urban Development *For Maguire Village only.* There are no income limits for Corry, Diamond, Tanglewood, or University Village South.

For additional information, write or call Division of Housing, Family Housing Office, University of Florida, Gainesville, 32611, telephone (904) 392-2176.

OFF CAMPUS HOUSING

The Housing Office functions as a listing and referral agency for privately owned rental housing of all types listed with the University for referral to students, faculty, and staff.

This office maintains extensive listings of apartments, houses, rooming units, trailers, and trailer park lots offered for rent to students, faculty, and staff. Each spring, the office compiles a comprehensive list of major apartment and rooming unit developments. This list is available to anyone who requests it in person or by mail from the Off Campus Housing clerk.

It is recommended that a personal inspection of the rental facility and a conference with the owner (or agent) be made prior to making a deposit or signing a lease agreement. Persons seeking off-campus housing should plan to arrive in Gainesville well in advance of the semester in which housing is needed. For example, Fall Semester arrangements are possible as early as April, Spring Semester after mid-November, etc. For best results, visit during the week — not weekends — after preliminary information on available rentals has been obtained.

Landlord/tenant problems are handled by Student Government's attorney, Room 302, Reitz Union, telephone (904) 392-1623.

Inquiries about off-campus housing should be directed to the Off Campus Housing clerk, University of Florida, Gainesville, 32611, telephone (904) 392-2181.

Off-Campus Cooperative Living opportunities are also available. Qualifications for membership are scholastic ability, and reference of good character. Inquiries should be addressed to: Collegiate Living Organization (Co-ed), 117 NW 15th St., and Georgia Seagle Hall (men), 1002 W. University Avenue.

STUDENT FINANCIAL AFFAIRS

The Office for Student Financial Affairs provides financial assistance and counseling for students who need help in paying college expenses. Financial aid is awarded according to each individual's need in relation to college costs. Awards may include loans, grants, scholarships, or part-time employment and may be offered to students singly or in various combinations. Evidence of financial need is determined by the College Scholarship Service on the basis of the financial information provided in the Financial Aid Form.

The application period for financial aid is January 1 through March 1 for the academic year beginning the following August. Applications submitted after March 1 are accepted on a funds available basis only. A new application for financial aid must be submitted each year. Financial Aid Applications may be obtained by writing to the Office of STUDENT FINANCIAL AFFAIRS, Room 111, Anderson Hall.

Applicants for financial assistance must complete a College Scholarship Service Financial Aid Form (FAF) and Affidavit of Educational Purpose. Undergraduate students must apply for the Basic Educational Opportunity Grant by checking Box 1, Item 41 on the FAF. An official award cannot be made until the student has been accepted for admission to the University of Florida. However, he/she should not wait for notice of acceptance but should apply as soon as possible after January 1. Aid for graduate students through the Office for Student Financial Affairs is limited to part-time employment and certain loan programs. Applications for other aid; e.g., fellowships, assistantships and loans, should be made to the head of the department of the student's major or the Dean of the Graduate School.

Loans

Loans are available in two forms. **Long-term loans** are low interest loans with payment deferred until the student graduates, withdraws, or changes his or her status as a full-time student. A full-time student carries a minimum of 12 hours for financial aid purposes. Short-term loans are emergency loans available to meet **temporary** needs. Recipients must be full-time students in good standing with the University of Florida. **The maximum amount that may be borrowed in any semester is $200, or the amount of in-state Fees. Short-term loan repayment must be made by the first day of the last month of the semester in which the loan is obtained.**

Grants

Financial assistance in the form of grants from Federal and State sources is available to undergraduate students. Such grants require financial need and do not have to be repaid by the student.

Scholarships

Approximately 400 scholarships are awarded through the Office for Student Financial Affairs to the most outstanding undergraduate students showing financial need as determined by the College Scholarship Service. Funds for the scholarship programs are, of course, limited and in most cases amount to $750 per year. Additional scholarships are available to incoming freshmen through the Office of Admissions and to undergraduates in general through individual colleges. Awards are also available from private donors who select the recipient directly. Students should consult the resources of their home community, civic clubs, service organizations and county educators.

Part-time Employment

Part-time employment may be awarded to a student as part of the total financial aid package. The University of Florida offers part-time employment to approximately 4,500 students each year. In addition, many students work off-campus in the Gainesville community. Normally a student works only 15 hours or less each week and earns between $900 and $1800 per year, depending upon personal skills and experience.

CAREER RESOURCE CENTER

The Career Resource Center provides career development, job placement, and cooperative education programs for all University of Florida students and alumni.

The objective of the Center is to assist students in developing 1) viable career plans compatible with academic interests, and 2) strategies that insure marketability and employment opportunity upon graduation. Thus, the entire program focuses upon the student—during early undergraduate years, approaching graduation, and after graduation as an alumnus. The program is designed to permit students to enter at any point in their college careers. Program resources include:

Individual advisement for students seeking personal career development and job search assistance.

A career mini-school offering many different career investigations and job search preparation short courses weekly (50-minutes each). Subjects include career planning, career information for minorities, job market projections for various career fields, job search planning, resume and letter writing, interview techniques, part-time and summer jobs, tips on using the Center, and other specialized information for business, industry, and education job seekers.

A cooperative education program by which students may —through supervised practical work experiences—add relevance to their classroom education, gain professional experience in chosen fields, provide a source of funds to help defray college expenses, and in many cases, become more competitive when entering the job market upon graduation.

An extensive placement service for students and alumni comprising the largest on-campus job interviewing program in the state representing all career fields, and Gator Match, a computer program matching students and alumni with potential employers. The Center also publishes current employer job listings representing hundreds of positions—full-time, part-time and summer—for students, new graduates, and experienced alumni.

A career resources library containing information on several thousand employes and related occupations; employer contact lists; directories for business, industry, education and government; lists of American firms operating overseas; reference and informational material on graduate and special studies programs including fellowships and assistantships; and many other materials and resource data needed by students planning a career, entering the job market, or contemplating graduate school. A special feature of the library facilities is the "Trends Desk" containing research data on job trends, outlook and economic forecasts, labor market statistics, manpower bulletins for various career fields, special directories and publications giving reports and ratings on most employers.

An audio visual department with study carrels and a library of over 150 slide/tape, video, and audio programs covering career choices, employer information, selection of academic programs, and job search and interview techniques.

A **qualification record repository and referral service** is available to students and alumni. Copies of credentials are sent upon request of the students and alumni to potential employers. In addition, the Center refers qualified persons on file and seeking employment to interested employers requesting candidates to fill job vacancies.

An "outreach program" in which professional staff members are available to hold seminars for student organizations, for lecture presentations to classes on all phases of career planning and job search preparation, and to develop "Career Day" programs in conjunction with colleges.

For additional information, students, alumni, and faculty are invited to visit the Center located on the ground floor of the Reitz Union. Staff members will be happy to discuss ideas, concerns, and needs for individuals or groups.

J. WAYNE REITZ UNION

The J. Wayne Reitz Union is the official center of campus activities. The provision of facilities, services, and a varied program of activities available to all persons of the University "community" serves as the basic purpose of the Union. Policy for the Reitz Union is established by a Board of Managers, consisting of eight students and six faculty members.

During May, 1967, the J. Wayne Reitz Union building was opened. Among the facilities and services offered are music listening rooms, art gallery areas, Arts and Crafts Center, photographic darkrooms, browsing library, a games area for bowling, billiards and table tennis, public telephones, information desk, passenger and ride wanted bulletin boards, display cases, barber shop, Union Store. A large ballroom, an auditorium, and conference and meeting rooms are available for all University organizations. Guest rooms are available for official guests of the University, guests of students, faculty, staff, and alumni.

The Reitz Union offers a wide range of food service facilities and dining opportunities. A cafeteria, snack bar, a restaurant dining area, the Orange and Brew, the Sugar Cone, and complete catering services for small intimate groups or for a banquet for 700 persons are included in the building.

Of particular significance to the educational program of the University is the Student Activities Center located on the third floor. A distinctive physical arrangement of offices and work space for Student Government, the Student Honor Court, and many other student groups enhances the effectiveness of the total student activities program of the University.

The Reitz Union plans and promotes many social, cultural, and recreational activities for the campus community. Among the regular activities are art exhibits, International Dinners, leisure classes, current and cultural films, a performing arts series, speaker's programs, out-door concerts, poetry readings, book reviews, arts and crafts sales, and campus tournaments in billiards, bowling, bridge, football and chess. Special activities such as receptions, dances, intracampus and inter-collegiate bridge, billiard and bowling tournaments, music appreciation listening hours, fashion shows, international activities, and special holiday parties are all a part of the Reitz Union program.

A distinctive area of the Reitz Union is the H. P. Constans Theatre, a 464-seat facility for the dramatic arts which provides excellence in design, equipment for staging and lighting, and acoustics.

UNIVERSITY COUNSELING CENTER

The University Counseling Center offers a variety of counseling and student development services to students and their spouses. The Center is staffed by psychologists whose primary interests are to facilitate the growth and development of each student and to assist students in getting the most out of their college experience. Services offered at the Center include the following:

Counseling — Individual, couples and group counseling is available to help students with personal, career and academic concerns. Appointments to see a Counselor can be made by calling the Center at *392-1575* or in person at *311 Little Hall*. Students initially have an intake interview in which the student and the counselor make decisions about the type of help needed. Students requiring immediate help are seen on a non-appointment emergency basis. Information concerning counseling interviews is confidential.

Consulting — Center psychologists are available for consulting with students, staff, professionals and faculty. These consultations often focus on working with individual students, special programs, organizational problems, ways of improving student environments, or other issues that may have important psychological dimensions.

Career Development — In addition to career counseling, the Center offers vocational interest testing, career workshops, and a career library. The Center also provides referral information to students seeking specific career information.

Group and Workshop Program — The Center offers a wide variety of groups and workshops. A number of them, such as the women's support group and the black women's enrichment group are designed for special populations.

Others such as the math confidence groups, assertiveness workshops, and counseling groups are formed to help participants deal with common problems and learn specific skills. A list of available groups and workshops is published at the beginning of each term.

Teaching/Training — The Center provides a variety of practicum and internship training experience for students in Counseling Psychology, Counselor Education, and Rehabilitation Counseling. Center psychologists also teach undergraduate and graduate courses in some of these departments.

CounseLine — A self-help tape program designed to provide information on how to cope with the problems of daily living is sponsored by the Center. Students may call 392-1683 and ask for any of the thirty-four tapes that are available. A list of the tapes is published periodically in the student newspaper and is also available at the Center.

GATOR DINING SERVICE

Gator Dining Service provides food service in ten locations on campus convenient to residence halls and classrooms.

Students are offered high quality food at reasonable prices in campus cafeterias and snack bars, as well as the Orange and Brew, Rathskeller, and the Arredondo Room.

It is the policy of the University to provide well-prepared food at the lowest possible cost. Students may effect a savings by participating in one of the three voluntary meal plans. The seven-day plan, 19 meals a week (two on Saturday and Sunday, three meals Monday through Friday); the seven day plan, two meals a day or the five day plan (Monday through Friday) any two meals a day. For further information contact the Gator Dining Service Office, 110 Johnson Hall.

STUDENT HEALTH SERVICE

Student Health Service provides a spectrum of medical services which include primary medical care, health education, health screening programs, and mental health consultation and counseling.

The service consists of an out-patient clinic and a 9-bed in-patient unit staffed by physicians, nurses, psychologists, pharmacists, laboratory and x-ray technicians, and supporting personnel. Specialty clinics are available for allergy, minor surgery, orthopedics, mental health, and women's health care.

The health fee is part of the tuition fee paid by all full-time students; it is optional for part-time students. Because not all services are covered by the health fee, the supplemental student government health insurance plan is highly recommended.

A personal health history questionnaire completed by you is required before registration at the University.

SPEECH AND HEARING CLINIC

The Program in Speech-Language Pathology and Audiology, Department of Speech, offers services without charge to University students who have speech, hearing, or language disorders.

The clinic operates when the University is in session. Students are encouraged to call the clinic (392-2041) or stop by the Arts & Sciences Building, Room 442, for information regarding services.

READING AND WRITING CENTER

The University Reading and Writing Center is a free service offered to students at all levels. The Center is located in Room 2107 GPA. For additional information or appointments, the office can be contacted between 8-5 Monday through Friday.

READING. The reading program offers individual and group instruction designed to improve comprehension, rate, vocabulary and study skills. These courses are developed, on the basis of an initial diagnosis, to meet the needs of each individual. Consultation and other services are also available to staff members.

WRITING. The writing program also offers individual and group instruction. Students are assisted in writing thesis statements, organizing papers, and developing essays from outlines. Texts and audiovisual materials are used to aid in spelling, paragraph development, grammar and sentence skills.

CREDIT. Both programs may be taken for credit or as individual volunteer programs.

Student Life

STUDENT ACTIVITIES AND ORGANIZATIONS

Student Government: Student Government at the University of Florida is a cooperative organization for advancing student interests and is based on mutual confidence among and between the student body, the faculty, and the administration. Considerable authority has been granted the student body for the regulation and conduct of student affairs. The criterion in granting authority to the Student Government has been the disposition of UF students to accept responsibility commensurate with the authority granted them. Student Government has several resources at its disposal to fulfill its mission, including the allocation of approximately three million dollars per year in student activity and service fees, substantial authority in the regulation of co-curricular activities, and administration of the Student Court. The University of Florida faculty and staff feel that training in acceptance of responsibility for the conduct of student affairs at the University is a valuable part of the educational growth and development of the individual student.

Student Government is a body politic, occupying its franchise under grant from the Board of Regents and subject to its continued approval. Student Government is patterned on the state and national form of government but adapted to the local needs of the Student Body. Powers are distributed into the three branches: (1) legislative, which is embodied in the Student Senate; (2) judicial, which is embodied in the Student Honor Court and the Traffic Court; (3) executive, embodied in the President and the Treasurer of the Student Body. Members of all three branches are elected directly by the Student Body, of which all UF students are members. In addition to elected offices, many appointed positions have been established in Student Government, including Cabinet and sub-Cabinet, Student Court, and the Traffic Court posts.

Student Government, recognizing its limitations as a true "government," attempts to exercise influence on governments at all levels through conferences, lobbying, research, and the advancement of proposals for change.

Students may apply for various positions within the student government structure by contacting the Student Government offices on the third floor of the J. Wayne Reitz Union.

Student Senate: The Student Senate is composed of representatives elected from the colleges and living areas on the campus and in general acts as the Legislative Branch of Student Government.

Religious Activities: The University of Florida welcomes the contributions of religious traditions to the campus community. The churches, centers, and organizations associated with the University offer a rich variety of programs and ministries. There are also interdenominational and non-denominational activities fostered by the Department of Religion and the Campus Ministries Cooperative.

Social Fraternities: Twenty-nine national social fraternities have established chapters at the University in addition to one national colony. The general work of the fraternities is supervised by the Interfraternity Council, composed of the President of each fraternity. The national fraternities at the University of Florida are Alpha Epsilon Pi, Alpha Gamma Rho, Alpha Phi Alpha, Alpha Tau Omega, Beta Theta Pi, Chi Phi, Delta Chi, Delta Tau Delta, Delta Upsilon, Kappa Alpha, Kappa Alpha Psi, Kappa Sigma, Lambda Chi Alpha, Phi Beta Sigma, Phi Gamma Delta, Phi Delta Theta, Phi Kappa Psi, Phi Kappa Tau, Pi Kappa Alpha, Pi Kappa Phi, Pi Lambda Phi, Sigma Alpha Epsilon, Sigma Chi, Sigma Nu, Sigma Phi Epsilon, Tau Epsilon Phi, Theta Chi, and Zeta Beta Tau. The national colony is Delta Sigma Phi.

Twenty women's sororities have established chapters at the University. Sixteen have built chapter houses and four live in other housing arrangements. These living quarters serve as the center of the activities of the individual sororities. Primary jurisdiction in sorority matters is vested in the Panhellenic Council. The chapters at the University of Florida are Alpha Chi Omega, Alpha Delta Pi, Alpha Xi Delta, Alpha Epsilon Phi, Alpha Kappa Alpha, Alpha Omicron Pi, Chi Omega, Delta Delta Delta, Delta Gamma, Delta Phi Epsilon, Delta Sigma Theta, Kappa Alpha Theta, Kappa Delta, Kappa Kappa Gamma, Phi Mu, Phi Sigma Sigma, Sigma Delta Tau, Sigma Kappa, Zeta Phi Beta, and Zeta Tau Alpha.

Professional and Honorary Fraternities:

AGRICULTURAL EDUCATION SOCIETY
AGRONOMY & SOILS
ALPHA DELTA SIGMA, Advertising
ALPHA EPSILON DELTA, Pre-Med
ALPHA EPSILON RHO, Broadcasting
ALPHA KAPPA DELTA, Sociology
ALPHA KAPPA PSI, Business
ALPHA PI MU, Industrial Engineering
AMERICAN INSTITUTE OF ARCHITECTS
AMERICAN INSTITUTE OF CHEMICAL ENGINEERS
AMERICAN INSTITUTE OF MINING, METALLURGICAL & PETROLEUM ENGINEERS
AMERICAN INSTITUTE OF INDUSTRIAL ENGINEERS
AMERICAN MARKETING ASSOCIATION
AMERICAN NUCLEAR SOCIETY
AMERICAN SOCIETY OF AGRICULTURAL ENGINEERS
AMERICAN SOCIETY OF CIVIL ENGINEERS
AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ARNOLD AIR SOCIETY, Military
ASSOCIATION FOR COMPUTING MACHINERY
BETA ALPHA PSI, Accounting
BETA ETA SIGMA, Honorary Scholastics
BETA GAMMA SIGMA, Business
BILLY MITCHELL DRILL TEAM, Military
BLACK AMERICAN LAW STUDENTS ASSOCIATION
BLOCK AND BRIDLE, Agriculture
COUNSELOR EDUCATION STUDENT ASSOCIATION
DAIRY SCIENCE CLUB
DELTA PSI KAPPA, Physical Education, Health, Recreation
DELTA SIGMA PI, Business
DELTA SIGMA RHO, Speech
DEUTSCHER VEREIN UND STAMMTISCH, German Language & Culture
ENDOGENOUS RHYTHMS, Zoology
ENGLISH GRADUATE STUDENT ASSOCIATION
ENVIRONMENTAL LAW SOCIETY
EPSILON LAMBDA CHI, Engineering Leadership
ETA KAPPA NU, Electrical Engineering
FINANCIAL MANAGEMENT ASSOCIATION HONOR SOCIETY
FLORIDA ACCOUNTING ASSOCIATION
FLORIDA ENGINEERING SOCIETY
FLORIDA PLAYERS
FOOD AND RESOURCE ECONOMICS CLUB
FOOD AND RESOURCE ECONOMICS GRADUATE STUDENT ASSOCIATION
FOOD SCIENCE AND HUMAN NUTRITION CLUB
FORESTRY CLUB
GATOR RAIDERS, Military
GOLDEN KEY NATIONAL HONOR SOCIETY
GUILD STUDENT GROUP, AMERICAN GUILD OF ORGANISTS
HONOR COUNCIL OF THE UNIVERSITY OF FLORIDA
INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS
INSTITUTE OF TRANSPORTATION ENGINEERS
JOHN MARSHALL BAR ASSOCIATION
JUSTICE CAMPBELL THORNAL MOOT COURT BOARD
KAPPA EPSILON, Pharmacy
KAPPA KAPPA PSI, Band
LAMBDA TAU, Medical Technology
LAW ASSOCIATION FOR WOMEN
LAMBDA GAMMA PHI, Veterinary Medicine
LEISURE EDUCATION AND PARKS STUDENTS
LINGUISTICS CLUB
MASTER OF BUSINESS ADMINISTRATION ASSOCIATION
MINORITY PREPROFESSIONAL ASSOCIATION
MORTAR BOARD
NATIONAL STUDENT SPEECH-LANGUAGE-HEARING ASSOCIATION

OMICRON DELTA KAPPA, Leadership and Scholastics
ORDER OF OMEGA, Fraternity/Sorority Leadership
ORNAMENTAL HORTICULTURE CLUB
PHI ALPHA DELTA, Law
PHI ALPHA THETA, History
PHI CHI THETA, Business
PHI DELTA PHI, Law
PHI ETA SIGMA, Freshmen Scholastics
PHI LAMBDA SIGMA, Pharmacy
PHI MU ALPHA SINFONIA, Music
PI MU EPSILON, Mathematics
PI TAU SIGMA, Mechanical Engineering
PRE-LEGAL SOCIETY
PRE-PROFESSIONAL ASSOCIATION, Pre-Med and Pre-Dent
PSI CHI, Psychology
PUBLIC RELATIONS STUDENT SOCIETY OF AMERICA
RHO CHI, Pharmacy
RHO EPSILON, Real Estate
RHO PI PHI, Pharmacy
SAVANT-UF, Leadership and Service Honorary
SIGMA ALPHA IOTA, Music
SIGMA DELTA CHI, Journalism
SIGMA LAMBDA CHI, Building Construction Honorary
SIGMA TAU SIGMA, Honorary Tutoring
SOCIETY OF AMERICAN FORESTERS
SOCIETY OF ENGINEERING SCIENCES
SOCIETY OF ENVIRONMENTAL ENGINEERS
SOCIETY OF PLASTICS ENGINEERS
SOCIETY OF WOMEN ENGINEERS
SPANISH AMERICAN LAW STUDENTS ASSOCIATION
SPECIAL EDUCATION ASSOCIATION OF GRADUATE STUDENTS
STUDENT AMERICAN PHARMACEUTICAL ASSOCIATION
STUDENT CHAPTER-AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS
STUDENT CHAPTER-AMERICAN CONGRESS ON SURVEYING AND MAPPING
STUDENT CHAPTER-AMERICAN SOCIETY OF INTERIOR DESIGNERS
STUDENT CONTRACTORS AND BUILDERS ASSOCIATION
STUDENT DIETETIC ASSOCIATION
STUDENT OCCUPATIONAL THERAPY ASSOCIATION
STUDENT PHYSICAL THERAPY ASSOCIATION
STUDENT PLANNING ASSOCIATION, Urban and Regional Planning
TAU BETA PI, Engineering
TAU BETA SIGMA, Music
UNIVERSITY OF FLORIDA ANTHROPOLOGY STUDENT ASSOCIATION
UNIVERSITY OF FLORIDA CHEMISTRY SOCIETY
UNIVERSITY OF FLORIDA COLLEGE OF NURSING GRADUATE STUDENT COUNCIL
UNIVERSITY OF FLORIDA GEOLOGY CLUB
UNIVERSITY OF FLORIDA HONORS ORGANIZATION
UNIVERSITY OF FLORIDA REHABILITATION ASSOCIATION
UNIVERSITY OF FLORIDA STUDENT CHAPTER-AMERICAN INSTITUTE OF CONSTRUCTORS
UNIVERSITY OF FLORIDA STUDENT CHAPTER OF THE WILDLIFE SOCIETY
UNIVERSITY OF FLORIDA VOCAL JAZZ TROUPE
XI SIGMA PI, Forestry Honorary

ACADEMIC HONESTY

The University of Florida expects students to be honest in all of their University class work. Therefore, students are required to commit themselves to academic honesty by signing the following statement as part of the admissions process, and again each semester on their academic advisement card.

"I understand that the University of Florida expects its students to be honest in all of their academic work. I agree to adhere to this commitment to academic honesty, and understand that my failure to comply with this commitment may result in disciplinary action, up to and including expulsion from the University."

This statement serves to remind students of the obligation they assume as students at the University of Florida. Matters of violations of academic honesty are adjudicated by the Student Honor Court.

STUDENT CONDUCT CODE

I. **Introduction:** Students enjoy the rights and privileges that accrue to membership in a university community and are subject to the responsibilities which accompany that membership. In order to have a system of effective campus governance, it is incumbent upon all members of the campus community to notify appropriate officials of any violations of regulations and to assist in their enforcement. All conduct regulations of the University are printed and made available to all students and are applicable upon publication in the *Independent Florida Alligator*, the *University Catalog*, the *UF Student Guide*, or other reasonable means of notification.

II. **Authority:** The President is charged with the responsibility for establishing and enforcing regulations governing student life. Regulations are designed to enable the University to protect against the conduct of those who, by their actions, impair or infringe on the rights of others or interfere with the orderly operations of the University. Discipline may be imposed for offenses against the Code occurring at any of the following locations or activities:

A. University campus;
B. University owned or controlled property;
C. Property or housing units assigned for responsibility to the University, including, but not limited to, fraternity and sorority property;
D. Activities sponsored by the University;
E. Activities officially approved by the University which are conducted by University chartered organizations; and
F. Activities occurring off campus as provided in paragraph VI.

III. **Rules of Procedure:** The primary judicial bodies authorized by the President and charged with the administration and enforcement of this Code shall formulate and furnish to students charged with an offense, rules of procedure which shall insure basic procedural fairness including, but not limited to:

A. The right to be notified in writing of the charges against him/her with sufficient detail and time to prepare for the hearing;
B. The right to a prompt hearing before an appropriate official, committee, or court;
C. The right to know the nature and source of the evidence which will be used against him/her;
D. The right to present evidence in his/her own behalf;
E. The right to freedom against compulsory self-incrimination; and
F. The right to appear with an adviser at the hearing.

IV. **Suspension of Pending Hearing:** Certain situations under the University Policy on Possession and Use of Firearms on Campus call for immediate suspension in the event of violation. If a student is suspended under this policy without a hearing, he/she shall, upon request, be entitled to a preliminary hearing at the earliest practical time. Such hearing shall be solely to determine if the suspending official acted within the scope of his/her authority and that there is probable cause to believe that the student has violated a University policy. The hearing board shall be appointed by the President and shall report its determinations to the President. This presidential action shall be interim until the Student Conduct Committee shall hear the matter and make recommendations to the President.

V. **Violation of the Code of Conduct.**

A. The Committee on Student Conduct may recommend to the President expulsion or any lesser penalty for the following offenses:

1. Furnishing false information to the University with intent to deceive.

2. Forgery, alteration, or misuse of University documents, records, or identification cards.

3. Unauthorized use, taking or destruction of public or private property on campus, or acts committed with disregard of possible harm to such property.

4. Actions or statements which by design or consequence amount to intimidation or hazing.

5. Participation in or continued attendance at, after warning to disperse by a University official, a raid on a University living unit.

6. Disorderly conduct.

7. Disrupting the orderly operation of the University as defined in Florida Statutes, Board of Regents' Policies, and the Demonstration Policy of the University.

8. Failure to comply with a University rule or regulation.

9. Violations of Housing, Inter-residence Hall Association, and Area Government regulations.

10. Violation of conduct probation.

11. Possession, use, or delivery of illegal drugs as defined in Florida Statutes.

12. Possession of a firearm on the University campus except as specifically authorized by University Policy on the Possession and Use of Firearms.

13. Actions or conduct which hinders, obstructs, or otherwise interferes with the implementation or enforcement of the Student Conduct Code.

14. Failure to appear before the Committee on Student Conduct or the Director of Student Judicial Affairs and to testify as a witness when reasonably notified to do so. Nothing in this subsection shall be construed to compel self-incrimination.

15. Violation of any municipal ordinance, law of the State of Florida, or law of the United States.

16. Ticket scalping: Selling tickets to any University of Florida function for more than the original price.

17. Possession or use of fireworks, explosives, dangerous chemicals, ammunition and weapons (including bows and arrows or switch-blade knives).

18. Actions which are committed with disregard of the possible harm to an individual or group, or which result in injury to an individual.

19. Violation of the University Academic Honesty Guidelines.

B. The Student Honor Court may recommend expulsion or any lesser penalty for academic dishonesty as defined by the Student Body Constitution. The Student Honor Court may impose any penalty provided for in the Student Body Constitution for other offenses against the student body as provided for in the Student Code of Conduct. Conflicts in jurisdiction will be resolved by the Director of Student Judicial Affairs.

C. Conduct Boards may recommend penalties as set forth by the University Housing Committee for violation of University Housing, Inter-Residence Hall Association, and/or Area Government regulations.

D. Student Traffic Court may impose authorized penalties for violation of University traffic, parking, and vehicle registration regulations.

E. Other judicial bodies may be established and vested with jurisdiction by appropriate authority.

VI. **Off-Campus Conduct:** When a student violates Section V-A-15 of this Student Conduct Code by an offense committed off the campus and which is not associated with a University-connected activity, the disciplinary authority of the University will not be used merely to duplicate the penalty awarded for such an act under applicable ordinances and laws. The University will take disciplinary action against a student for such an off-campus offense only when it is required by law to do so or when the nature of the offense is such that in the judgment of the Director of Student Judicial Affairs, the continued presence of the student on campus is likely to interfere with the educational process and the orderly operation of the University; the continued presence of the student on campus is likely to endanger the health, safety, or welfare of the University Community or its property; or the offense committed by the student is of such a serious nature as to adversely affect the student's suitability as a member of the university community.

If the Director of Student Judicial Affairs determines the offense affects the University as stated above, then the Committee on Student Conduct shall hold a prompt hearing to consider whether the offense is of such nature as set out above; whether or not the student committed the offense; and recommend appropriate action. The action of the Committee on Student Conduct shall be made independent of any off-campus authority.

VII. **Postponement of Hearing Due to Pending or Possible Criminal or Civil Charges:** If the student charged with a violation of the Student Conduct Code, regardless of which primary judicial body may hear the matter, wishes to have the hearing postponed because there is pending or possible civil or criminal litigation which he/she feels might be prejudiced by the findings of the hearing, such postponement may be granted provided the student agrees to accept conduct probation or suspension, depending upon the gravity of the offense. Such probation or suspension will be determined and activated by the Director of Student Judicial Affairs and will remain in force until such time as the student requests a hearing before the appropriate primary judicial body and the hearing is held. The student shall be informed whether he/she would be placed on probation or suspended prior to making a decision to postpone the hearing.

VIII. **Student Waiver of Right to Hearing:** In the event a student charged with an offense under paragraph V-A wishes to waive in writing the right to a hearing by the appropriate official or hearing body and the Director of Student Judicial Affairs wishes to accept jurisdiction, the Director of Student Judicial Affairs may make a determination of fact and make a recommendation of appropriate action.

IX. **Summary Hearing:** When a student is accused of a violation of paragraph V-A of this Code, which in the opinion of the Director of Student Judicial Affairs, if proven, would not warrant a penalty in excess of two quarters probation, then the Director of Student Judicial Affairs may require such hearing to be held before the Chairperson of the Committee on Student Conduct or his/her designated representative. The hearing shall be held in accordance with paragraph III of this Code.

X. **Conflict of Jurisdiction:** In the event that the offense is within the jurisdiction of more than one primary judicial body, the Director of Student Judicial Affairs shall determine which judicial body shall hear the charge.

XI. **Penalties:** A student adjudged guilty of violations under paragraph V or the Academic Honesty Guidelines shall be subject to a penalty commensurate with the offense and any aggravating and mitigating circumstances, which may include one of more of the following penalties, unless otherwise expressly provided:

A. Reprimand—The student is given formal written notice and official recognition is taken of the offense committed.

B. Conduct Probation—The student is deemed not in good standing with the University for a specific period of time. Conditions of probation may be imposed in relation to the offense committed. If the student is found to have violated the probation by subsequent violation of the Code or any appropriate condition, he/she shall be subject to expulsion or any lesser penalty. The duration of the probationary period and conditions shall be in proportion to the seriousness of the offense.

C. Suspension —The student is required to leave the University for a given or indefinite period of time, the termination of which shall depend upon specified acts of the student's own volition related to mitigation of the offense committed.

D. Expulsion —The student is deprived of his/her opportunity to continue at the University in any status, permanently.

E. Payment of Damages—The student is required to pay for damages to University property, provided that

such payment shall be limited to the actual cost of repair or replacement of such property.

For additional information regarding conduct procedures contact the Office for Student Services or consult the *Student Guide*.

INTERCOLLEGIATE ATHLETICS

University of Florida athletic teams compete in 16 sports in men's and women's programs which make a comprehensive, high-calibre level of competition on a regional and national basis.

Men's teams compete in the Southeastern Conference and the National Collegiate Athletic Association in football, basketball, baseball, cross country, swimming, track, golf and tennis. Women's teams compete in the Association of Intercollegiate Athletics for Women in Region III, fielding teams in gymnastics, swimming, golf, tennis, track, cross country, basketball and softball.

Physical facilites include Florida Field stadium (capacity 72,000) a baseball diamond, women's softball diamond, varsity tennis stadium, golf course, running track, two football practice fields, and an exciting new facility, Stephen C. O'Connell Center, which houses a 12,000-seat basketball arena, an indoor track, an indoor swimming pool and diving tank and various other student activity segments.

Intramural-Recreational Sports

Intramural-Recreational Sports is a significant part of the total educational community at the University of Florida. All students, faculty and staff are encouraged to participate voluntarily in the program which has become an important phase of extra-curricular activities on the campus and offers opportunity for exercise, recreation, social contacts and friendly competition.

Student administration is a tradition in the intramural program at the university. Students officiate the games, manage the leagues, act as Student Directors in the Intramural Office, serve on the Protest Board and on the Intramural Policy Board.

For unstructured leisure time activities, the university community may picnic, boat and swim at Lake Wauburg, check-out equipment from the equipment rooms on campus, play on any of the 16 football fields, 14 softball fields, 16 volleyball courts, 30 tennis courts, 12 four-wall or 16 three-wall handball-racquetball courts, 2 squash courts, 4 indoor or 5 outdoor basketball courts, swim in Florida Pool or exercise in the weight-training rooms. The Stephen C. O'Connell Center is an exciting addition to the University of Florida as a recreational sports facility. The center has 8 volleyball courts, 16 badminton courts as well as an indoor track (6 lanes, 222 yards, 60 yard straight away) olympic size swimming pool, fencing-karate room, Nautilus equipped weight room, and many other indoor facilities that will enhance the intramural program.

For structured competitive play, the department organizes tournaments in the following leagues: All-University Special Events, Women's Independent, Co-Recreational, Engineering, Fraternity, Law, Little Sisters, Men's Independent, Men's and Women's Dormitory, Married Students, Sorority and Student Wives. The intramural clubs program offers instruction, recreation and competition in approximately 43 clubs. Areas of interest include clubs in: dance related clubs, individual and team sports, field sports, water related clubs, recreational sports clubs and martial arts.

The current importance and growth of intramural-recreational sports on campus is unmatched in the history of the university. The staff invites everyone to use this resource at the university to fulfill their leisure-time interest.

AUTOMOBILE AND TRAFFIC REGULATIONS

Any student of the University of Florida is eligible to register a motor vehicle for use as authorized and to operate and park a registered vehicle on campus. The type of parking decal issued is determined by the student's local residence and student classification. Students are advised to plan their transportation arrangements with care before the start of classes. Increased volume of traffic in campus parking areas in recent years has caused some to have difficulties commuting to campus from surrounding areas. On-campus housing is within walking distance of a considerable variety of shops and restaurants. Since parking near dormitories can also become congested, some dormitory students may find it preferable to do without an automobile while attending the University. Many living near campus have found a bicycle to be a handy convenience, even for those who own their own cars.

Students desiring to park on campus during restricted hours must register their automobiles, motorcycles or mopeds at the University Traffic and Parking Department, 108B Johnson Hall, during their first registration period. Failure to do so will result in a parking citation. There is a system for fines and driver suspension for on-campus vehicle violations. Persons failing to respond to tickets will be subject to an additional administrative fee of $5.00 and will not receive grades or an academic transcript until delinquent fines and fees have been paid.

A copy of the rules governing traffic, parking and registration of vehicles on campus may be obtained from the Traffic and Parking Department located in Johnson Hall. Each student is urged to familiarize himself with these regulations upon registering at the University.

Student Academic Regulations

Additional information relative to graduation, social activities, failure in studies, conduct, etc., may be found in the Student Guide and the sections of the catalog containing regulations of the separate colleges and schools. Each student should become familiar with rules and regulations of the University.

READMISSIONS

APPLICATION FOR READMISSION

The information contained in this section applies only to students who have previously been admitted at any level to the University of Florida. Requirements for admission for a student seeking to enroll in the University of Florida for the first time will be found in the Admissions section of this catalog. Please consult the INDEX for page numbers.

How to Apply for Readmission: An applicant should address a request to the Office of the Registrar for application forms. Forms and directions vary with the level of readmission. The applicant should indicate in the request the college and the level of last enrollment at the University of Florida as well as the college and level for which he or she wishes to apply. Applications must be received in the Office of the Registrar by the deadline date for the term, as published in the University Calendar.

READMISSION OF STUDENTS

1. *Satisfactory academic record.*

   a. An applicant must be eligible to return to the University of Florida on the basis of one's previous academic record at this institution. If the applicant has attended any college or university subsequent to enrollment at the University of Florida, he or she must also have an average of "C" or higher (as computed by the University of Florida) on all work attempted at each institution. A student must list and furnish transcripts of every institution attended when seeking readmission to the University of Florida. The applicant must also be in good standing and eligible to return to each institution previously attended.

   b. An applicant for readmission must meet the admission requirements of the college or school he or she expects to enter. (Consult the appropriate college section of the catalog for specific admission requirements.)

2. *Satisfactory conduct record*

   a. An applicant must present a satisfactory record of conduct. Regardless of other qualifications, an applicant who has experienced major or continuing difficulties with school or other authorities since the last enrollment at the University of Florida may find his or her application for readmission disapproved.

3. *Submission of Request*

   a. An applicant for readmission should indicate the name under which he or she was registered when last enrolled and the social security number.

Credits

The word credit as used in this catalog refers to one semester hour.

DEGREES AND GRADUATION

The University of Florida will confer the degree appropriate to the course pursued under the following conditions:

1. *Curriculum requirements:* Certification by the Dean of the college concerned that all requirements of the course of study as outlined in the college announcement, or its equivalent, as determined by the faculty of the college offering the course, have been completed.

2. *Recommendation of the faculty of the college awarding the degree*

3. *Residence requirements:* (a) The minimum residence requirement for the baccalaureate degree is two semesters. (b) Students are required to complete the last thirty credits applied toward the baccalaureate degree during regular residence in the college from which the student is to be graduated. Exception to this regulation may be made only upon written petition approved by the faculty of the college concerned. (c) For residence requirements for degrees in the Colleges of Law, Medicine, Dentistry, or Veterinary Medicine, see the catalog of each college. (d) For residence requirements of the various graduate degrees, see the *Graduate School Catalog.*

4. *Average Required:* In order to secure a degree, a student must have a "C" average or better in all credits required toward that degree.

5. *Two Degrees:* Two degrees of the same rank, e.g., B.A. and B.S. may be conferred upon the same individual provided that the second degree represents at least thirty credits of additional work, with the necessary qualitative and residence requirements.

6. *Continuous Attendance:* When a student's attendance is continuous, graduation according to the curriculum under which he or she entered is permitted, provided the courses required are offered by the University. If some or all of the required courses are no longer offered, the faculty of the college concerned will make such adjustments for the individual students as are appropriate for the curriculum involved. As long as a student attends the University as much as one semester during any calendar year, his or her residence is continuous.

7. *Summer Term Enrollment:* Effective September 1, 1976 all students entering a university in the State University System with less than 60 hours credit shall be required to earn at least 9 credit hours prior to graduation by attendance at one or more summer terms. University Presidents may waive the application of this rule in cases of unusual hardship to the individual.

8. *Application For Degree:* Students expecting to graduate must file an application for the degree in the Registrar's Office on or before the date indicated in the current University Calendar. Students must apply in the semester in which they expect to graduate, regardless of previous applications in previous semesters.

9. *Time Limit:* To receive a degree a candidate must have completed: (a) all residence work required for graduation at least 24 hours prior to the scheduled meeting of the College Faculty voting on the candidates for degrees; (b) all extension work at least two weeks prior to the scheduled meeting of the College Faculty voting on the candidates for degrees.

10. *Time-Shortened Degree Opportunities:* A variety of programs is offered by the University of Florida which may enable students to shorten the length of the time necessary for them to complete their degree requirements. These opportunities include several credit by examination programs, and other options. For specific information, refer to the section listed in the table of contents entitled "Time Shortened Degree Opportunities." Also refer to the college descriptions for additional information.

11. *Extension Work Permitted:* (Note: Extension work as used below refers to both extension classes and correspondence study.)

   a. Students may take a maximum of twelve credits of extension work during any academic year.

   b. Students may not take more than nine credits of extension work during a semester.

   c. The amount of extension work which a student may apply toward degree requirements may not exceed one-fourth of the amount required for the degree. For additional or unique restrictions on extension work allowed toward a degree, students should refer to the appropriate

section of this catalog or consult with the dean of the college concerned.

d. Students may not take, by extension work, more than twelve of the last thirty-six credits necessary for a baccalaureate degree.

e. Simultaneous registration in on-campus and extension work is permitted provided that approval has been obtained from the dean of the college in which the student is registered.

12. *Registration of Graduate Students:* A student must be registered in the University for the term in which the candidate's final examination is given and at the time he or she receives a degree.

13. *Repeat Course Work:* Credit will not be allowed on repeated course work if the course that is repeated contains essentially the same course content as it did when the student initially enrolled for the course.

14. *Pending Charge of Academic Dishonesty or Code of Student Conduct Violation:* No degree will be conferred upon a student against whom there is pending an unresolved charge of either Academic Dishonesty or Code of Student Conduct violation where the penalty for such violation would likely be:

a. Suspension
b. Expulsion
c. Failing Grade
d. Any combination of the above until such time as the charge is resolved and degree requirements are met.

MAXIMUM AND MINIMUM LOAD

Some colleges have a maximum load which is stated in the catalog. In the absence of such a statement, the general University regulation applies. This regulation allows a maximum load of 15 credits for a student who earned an average below a "C" the preceding semester of attendance. The minimum load for all undergraduate students is 12 hours. The minimum load for a six-week summer term is 6, and for the twelve-week term 12.

Simultaneous enrollment in correspondence courses, extension work at another college or university is counted in computing the maximum, but not the minimum load.

At the time of registration, a student, upon the approval of his or her dean, may register for less than the minimum or more than the maximum load. After the late registration period has closed, no student attending under the above conditions will be permitted to drop below the minimum load unless the student successfully petitions the college in which he or she is enrolled. The minimum load for fulltime benefits from the VA or Social Security is 12 hours per semester for undergraduate students.

DUAL ENROLLMENT

1. *Definition:* Dual Enrollment, as used in this regulation, refers to a student taking on-campus courses simultaneously at BOTH the University of Florida and another institution.

2. *Dual Enrollment will be permitted ONLY under the following conditions:*

a. Approval in writing for the dual enrollment must have been secured by the student from the appropriate official at EACH institution. A copy of such approval must be furnished at the time of registration to the registrar at the University of Florida.

b. A student will not be permitted to register at the University of Florida for a course which is a part of the curriculum at the student's parent institution. This requirement also applies if courses are available at the parent institution which might be evaluated as equivalent or acceptable substitutes for the University of Florida course. The converse of these statements also applies to University of Florida students registering for courses at another institution.

c. Priority in assignment to classes at the University of Florida will be given to regularly enrolled students.

d. A student taking courses at the University of Florida will be required to register and attend classes under the University of Florida calendar.

e. The student will pay appropriate fees at the University of Florida based on the number of credit hours for which he or she is registered at this institution.

It is the student's responsibility to insure that an official transcript of work completed under a dual registration is forwarded to the parent institution. Certification to social security and veterans administration programs is also the responsibility of the individual student who must request each individual institution to furnish records as might be necessary.

NON-DEGREE REGISTRATION

A student not previously registered at the University of Florida may, with college approval, register for one semester only as a non-degree student. Members of the faculty and staff and those with special permission from their college may be permitted to register as non-degree students for more than one semester. Registration will be on a space available basis. Procedures for registering are available from the Registrar's Office.

GRADES

Results of student's work are recorded in the Registrar's Office as follows:

1. *Undergraduate Students:* Passing grades are A, B+, B, C+, C, D+, D, in order of excellence, and S-Satisfactory. Failing grades are E — Failure, I — Incomplete, U — Unsatisfactory, X — Absent from examination, EW — Dropped for nonattendance or unsatisfactory work, and WF — Withdrew failing. The grade of EW is not a valid grade after 1979-80.

Grades of I and X are considered as failing grades. They must be changed to passing grades in accordance with the dates set in the University Calendar, or be converted to grades of E.

In special situations where it is not possible to assign regular grades at the end of the term, a deferred grade may be assigned. The symbol for a deferred grade is a grade of H. This grade may be assigned only in special cases, such as modular courses, confined to infirmary, and similar circumstances. A grade of H will not be computed in a student's grade point average.

A symbol of W will be assigned for any course dropped through the college after the end of the official drop/add period and prior to the date for assigning a WF grade. The W symbol is an official notation of an action taken in a course, and will appear on the student's transcript.

The degree-granting college may require a minimum grade of C in a particular course or courses.

2. *Graduate students:* Passing grades for graduate students are A, B+, B, C+, C and S. Grades of "C+," and "C" in courses below 5000-level are acceptable for credit toward graduate degrees only if the total program meets the B-average requirement. C+ and C grades in 5000-level courses and above count toward a graduate degree only if an equal number of credit hours in courses numbered 5000 or above have been earned with grades of B+ and A, respectively.

SATISFACTORY-UNSATISFACTORY GRADE OPTION

It is the University's desire to allow students to receive as broad an education as possible. Therefore, students are encouraged to take courses in disciplines in which they may not have the proper background. They may take such course work as electives and receive a grade of S — satisfactory or U — unsatisfactory. These grades become a part of a student's record, but do not count in the grade point average as computed by the University of Florida. NOTE: Other

agencies or institutions might count the grade of U as a failing grade in their grade point average computation.

To be eligible to enroll under the S-U option, a student must 1) be in good standing — may not be on any type of probation, or warning, 2) be classified as an undergraduate student, and 3) have approval from proper university officials.

Only one course will ordinarily be approved in any one term. Approvals for exception to this policy must be obtained from the dean of the college in which the student is registered.

The deadline for electing the S-U option is the last day for dropping or adding a course as published in the calendar. In addition, students who elect the S-U option may subsequently request that their instructors assign a standard grade, but the converse is not permitted.

AVERAGES

1. *Definitions:* The term "average," as used in any university regulations concerning probation or suspension, always refers to the average on work attempted at the University of Florida. Grades received at other institutions are not averaged with grades received at the University of Florida for the purpose of meeting any University average requirement. Most honorary societies take into consideration the quality of the work done at other institutions in meeting any average requirements they may have.

2. *How computed:* Averages are determined by computing the ratio of grade points to semester hours recorded as attempted. Grade points are established by equating each semester hour as follows: A with 4.0, B+ with 3.5, B with 3.0, C+ with 2.5, C with 2.0, D+ with 1.5, D with 1.0, and E, WF, EW, I, and X with 0.0. The grade of EW is not a valid grade after 1979-80. In computing averages, a course repeated is counted as many times as grades for it are recorded. Hours for grades of S, U, and H are not computed in the University of Florida grade point average.

3. *Grade Point Averages:* Students' grade point averages will be based on their overall work at the University of Florida. That is, when students are admitted to the University of Florida their grade point averages begin and their academic averages will be based upon work taken at the University of Florida. While work transferred from other institutions toward a degree program at the University of Florida will count in total hours earned, such hours will not be a part of the University of Florida grade point average.

PROBATION, SUSPENSION, AND EXCLUSION FOR ACADEMIC REASONS

The University of Florida is responsible for providing the best possible education in an economical and efficient manner. In order to discharge this responsibility, the University expects and requires reasonable academic progress from its students. Continuation of students who have demonstrated a lack of the necessary ability, preparation, industry, or maturity to benefit reasonably from a program of university study is inconsistent with the University's responsibility as a tax supported institution.

The University of Florida Senate has enacted regulations covering probation, suspension, and exclusion. These regulations are directed toward enforcing the academic standards of the University. The academic standards of the University require both the maintenance of grade point averages consistent with a reasonable chance of satisfactory completion of the University programs and reasonable conformance to the catalog description of the program of study in which the student is engaged. Any college of the University may specify additional academic standards and students are responsible for observing the regulations pertaining to such standards.

PROBATION BECAUSE OF UNSATISFACTORY ACADEMIC ACHIEVEMENT

The purpose of academic probation is to recognize formally the fact that a student may not be making satisfactory progress.

The conditions of academic probation are intended to: (1) relate to quality of achievement below standards required ultimately to graduate; (2) recognize unsatisfactory work at an early date; (3) be sufficiently significant to make clear to the student, and the administration, the short-comings of the student's performance; (4) provide occasion for counseling; (5) give students whose ultimate success is doubtful further opportunity to demonstrate adequate performance.

All undergraduate students:

A student with less than a 2.0 grade point average overall for University of Florida work shall be placed on scholarship warning if he or she has a grade point deficit which is less than ten.

A student with less than a 2.0 grade point average overall for University of Florida work shall be placed on scholarship probation if he or she has a grade point deficit of ten or more, but less than twenty.

Any student who is eligible to return to the University after a suspension because of academic reasons will be placed on final scholarship probation for his or her next term.

In addition to University probation, students may be placed on probation by the colleges in which they are registered if they do not maintain normal academic progress in the program of study in which they are engaged.

CONTINUATION OF PROBATION

All Undergraduate Students:

A student's scholarship warning shall be continued as long as he or she has a grade point deficit of less than ten. A student's scholarship probation shall be continued as long as he or she has a grade point deficit of ten but less than twenty. If the grade point deficit places him or her in another probation category, the student shall be subject to the provisions of that category.

REMOVAL OF PROBATION

All Undergraduate Students:

Scholarship probation or scholarship warning will be removed when a student's grade point deficit has been reduced to zero.

Removal of college probation:

A student will be removed from college probation when it is deemed by his or her college that the student is making satisfactory academic progress in the program of study in which he or she is engaged.

SUSPENSION

The purpose of suspension from the University for academic reasons is to remove from the University community any student who would not ultimately meet requirements for graduation if he or she continued at his or her current level of progress.

The conditions of academic suspensions are intended to (1) select any student whose performance indicates that he or she will not fulfill the requirements for graduation; (2) encourage a student to leave the University as soon as a high probability of failure is evident.

All undergraduate students:

A student with a grade point deficit of twenty or more in his or her University of Florida work shall be suspended from the University for one semester.

A student re-enrolling after a one semester suspension will be on final scholarship probation. If the grade point deficit is twenty or more at the end of the term the student re-enrolls, he or she will be suspended without the possibility of re-registering except by committee action.

EARNING CREDIT WHILE SUSPENDED

A student under any kind of academic suspension at the University of Florida may not earn credit toward a degree at the University of Florida by taking work in residence at another institution or through extension or correspondence courses.

However, a student who was suspended for academic reasons and who has not yet earned the Associate of Arts Certificate who subsequently graduates from an accredited Florida Community College may appeal to the Petitions Committee for reinstatement. The Petitions Committee may then, upon the recommendation of the college in which the student wishes to enter, admit the student on academic probation to that college or school. Credits earned by such students while under suspension from the University of Florida may be transferred in accordance with other rules and regulations of the University of Florida.

EXCLUSION

Freshman and Sophomore students:

A student classified UF who has attempted 80 semester hours (this includes all work accepted by transfer and all work attempted at the University of Florida) shall be ineligible for further registration at the University unless he or she applies for a change of classification and is formally admitted to a degree program.

All undergraduate students:

A student may be excluded from a program of study by the College responsible for the program if the student fails or refuses to maintain normal academic progress. Such exclusion does not prohibit the student from enrolling in other programs or colleges if he or she meets the requirements.

Graduate students:

A graduate student may be denied further registration in the University or in his or her graduate major when the student's progress toward completion of his or her planned graduate program becomes unsatisfactory. Unsatisfactory progress has been defined by the Graduate Council to include failure to maintain an accumulative grade average of B in all work attempted in the Graduate School.

DROPPING COURSES

No student will be allowed to drop a course during the last two weeks of regularly scheduled classes without receiving failing grades. A proportionate date will be established for shortened terms. Any student seeking an exception to this policy must petition the University Petitions Committee.

WITHDRAWALS

All undergraduate students:

It is the responsibility of each student to make every effort to complete the full semester at the University. If any student withdraws after the date published in the calendar, he or she shall be assigned grades of WF (withdrew failing) in all courses, and will be subject to the suspension and exclusion regulations.

A student on scholarship probation who withdraws from the University prior to the final date published in the calendar will be continued on scholarship probation for the next semester.

A student on University Senate Committee probation must meet the terms of probation specified by the Committee.

ABSENCES OR UNSATISFACTORY WORK

Students are responsible for satisfying the entire range of academic objectives as they are defined by the instructor in any course. For students whose names appear on the initial class roll, absences count from the first meeting of the class.

Any student who has not attended at least one of the first two class meetings of a course or laboratory in which he or she is registered and has not contacted the department which offers the course to indicate intent to remain in the course may be dropped by the chairman of the department which offers the course *if* the chairman deems this action necessary to provide space for other students who wish to add the course. Students dropped from courses or laboratories through this procedure will be notified by notice posted in the department office. Such students may be reinstated in the course or laboratory on a space available basis if documented evidence excusing the absences is presented to the department chairman.

NOTE: Students must not assume that they are auto*matically* dropped if they fail to attend the first few days of class since these actions may not necessarily be taken in all courses and laboratories.

TWELVE-DAY RULE: No student shall absent himself or herself from the University for more than 12 scholastic days per semester in order to participate in athletic or in extracurricular activities. (A scholastic day is any day on which regular class work is scheduled.)

The 12-day rule applies to individual members of the group rather than to the group as a whole. Consequently, a schedule of more than 12 days for any group should be rotated so that no student is absent from the campus for more than 12 scholastic days.

A student who has been warned for absences or unsatisfactory work in any class should not incur additional absences in that course, even though he or she has not been absent from the University for 12 scholastic days. It is the responsibility of the student to see that his or her class work and attendance are satisfactory.

Student Responsibility: Students, themselves, remain fully responsible for satisfying the entire range of academic objectives as they are defined by the instructor in any course.

Under University policy, students are not authorized to attend class unless they are on the class roll or have been approved to audit and have paid the audit fees.

POST BACCALAUREATE STUDENTS

The probation, suspension, and exclusion regulations that apply to undergraduate students also apply to post-baccalaureate students.

CLASSIFICATION OF STUDENTS

Students will be classified by the Registrar each semester as follows:

0. Special transient or other non-degree students who have been permitted to register at the University of Florida will be classified as 0.

1. A student with less than 30 hours credit will be classified as 1.

2. A student who has earned 30 semester hours or more, but less than 60, will be classified as 2.

3. A student who has earned 60 semester hours or more, but less than 90, will be classified as 3.

4. A student who has earned 90 semester hours or more will be classified as 4.

5. A student who is a candidate for a degree in a program which normally requires 10 semesters and has earned 120 semester hours or more will be classified as 5.

6. Post-Baccalaureate students: Degree-holding students who have been admitted to post-baccalaureate status will be classified as 6.

7. A graduate student who is seeking a Master's degree will be classified as 7.

8. A graduate student who has earned a Master's degree, or has earned 36 or more hours while seeking a degree beyond the Master's degree (but has not been admitted to doctoral candidacy), will be classified as 8.

9. A graduate student who has been admitted to doctoral candidacy will be classified as 9.

PETITIONS AND APPEALS

In case the operation of a student academic regulation appears to result in an undue hardship on an individual student, he or she may petition for waiver of the regulation.

Petitions requesting permission to drop/add should be presented to the School or College in which the student is enrolled until the date specified in the calendar. After that date all drop/add petitions must be presented to the Committee on Student Petitions: Exceptions to the minimum-maximum load regulation are presented to the School or College for a decision. Petitions approved by the School or College must be reported to the Registrar's Office before the action becomes official.

All other petitions should be presented to the Registrar who will refer them to the University Senate Committee on Student Petitions. No petition for readmission may be filed after regular registration has started for the term.

The student seeking waiver of regulation through petition must remember that no committee on petitions can direct an instructor to change a student's grade, nor can the Senate Committee require any college or school to grant a degree by waiving any of these regulations.

ADMINISTRATIVE PROVISIONS

All actions taken under these regulations shall be reflected by appropriate notations on the student's record.

MAINTENANCE OF STUDENT RECORDS

The Registrar's Office maintains students' academic records. A progress report is sent to each student at the end of the term indicating his or her grades, cumulative hours and grade points, probationary status, if any, and degrees awarded, if any.

CONFIDENTIALITY OF STUDENT RECORDS

The University of Florida assures the confidentiality of student educational records in accordance with State University System rules, state statutes, and the Family Educational Rights and Privacy Act of 1974, known as the Buckley Amendment.

In general, a present or former student has the right to personally review his or her own educational records for information and to determine the accuracy of these records. Parents of dependent students, as defined by the Internal Revenue Service, have these same rights. A photo I.D. or other equivalent documentation, or personal recognition by custodian for record will be required before access is granted.

AUDITING COURSES

Auditing may be approved on a space-available basis. The approval of the instructor and Dean is required, in addition to payment of course fees. Florida residents who are sixty years of age or older may apply for a waiver of payment of auditor's course fees. Procedures for auditing courses are available at the Registrar's Office.

Time Shortened Degree Opportunities

The University of Florida provides numerous opportunities by which students may accelerate their academic careers and reduce the overall length of time spent in completing degree requirements. These opportunites are explained below:

1. *Early Admission:* The Early Admission program allows superior students to be admitted to the University following completion of the Junior year in high school. Applications are encouraged and will be considered on an individual basis by the Admissions Committee. For additional information, refer to the Admissions section of the catalog.

2. *Dual Enrollment:* Dual Enrollment refers to a student taking on-campus courses simultaneously at both the University of Florida and another institution. For example, a high school student could register at the University as a non-degree student. The credits earned prioor to high school graduation could then be accepted for advanced standing placement and degree-credit when the student is admitted to the University. For more information, high school students may refer to the description of non-degree registration within the Student Academic Regulations section.

University of Florida students may also earn additional credit through the dual enrollment program. For more information, refer to the discussion of dual enrollment within the Student Academic Regulations section.

3. *Increased Course Load:* Capable students who register for more than the normal 15 hours per semester may complete the traditional four-year span within three years.

4. *Year-Round Attendance:* Students attending the University every semester, including Summer sessions, may advance their graduation date by as much as two semesters.

5. *Credit by Examination:* A student may participate in a variety of credit by examination programs in order to earn credit toward a degree awarded by the University of Florida. Credit received from one examination program may not be duplicated by another. The various credit by examination programs are explained below:

Advanced Placement Program: This credit by examination opportunity is sponsored by the College Entrance Examination Board. Under this program, a student entering the University offers a nationally graded examination as evidence of completion of a college level course taken in high school. If the results of the examination meet the minimum requirements listed below, the student may receive University credit for courses covering similar material.

Advanced Placement Examination	Score Required for Credit	Course Title	Semester Hours Credit
American History	3, 4, or 5	US History: Colonial to Present	6
Art History	3, 4, or 5	Introduction to Western Art	6
Art, Studio	3, 4, or 5	Beginning Art	6
Biology	3, 4, or 5	Introduction to Biology	6
Chemistry	3, 4, or 5	Introduction to Chemistry	6
English Language-Composition*	3, 4, or 5	Introductory English	6
English Composition-Literature*	3, 4, or 5	Introductory English	6
European History	3, 4, or 5	Introduction to European History	6
French Language	3, 4, or 5	French Composition & Conversation	6
French Literature	3, 4, or 5	Introduction to French Literature	6
German Language	3, 4, or 5	German Language	6
German Literature	3, 4, or 5	German Literature	6
Latin (Vergil)	3, 4, or 5	Latin (Vergil)	3
Latin (Catullus-Horace)	3, 4, or 5	Latin (Catullus-Horace)	3
Calculus AB**	3, 4, or 5	Elementary Functions & Calculus	8
Calculus BC**	3, 4, or 5	Calculus	8
Music, Listening & Literature	3, 4, or 5	Music Listening & Literature	6
Music Theory	3, 4, or 5	Introductory Music Theory	6
Physics B***	3, 4, or 5	General Physics	6
Physics C-(Mechanics)***	3, 4, or 5	Introductory Physics w/Calculus	3
Physics C (Electricity & Magnetism)***	3, 4, or 5	Introductory Physics w/Calculus	3
Spanish Language	3, 4, or 5	Spanish Composition & Conversation	6
Spanish Literature	3, 4, or 5	Introduction to Spanish Literature	6

*Credit allowed for only 1 English exam
**Credit allowed for only 1 Caculus exam
***Credit allowed for Physics B or Physics C exams only

College Level Examination Program (CLEP): The College Level Examination Program is another type of credit by examination opportunity sponsored by the College Entrance Examination Board. By presenting appropriate scores, students may receive as many as 30 semester hours credit toward completion of general education requirements. Their scores on the CLEP general examinations must meet the minimums established by the State University System. In addition, students who plan to apply for credit must do so before enrolling or, at the latest, prior to the end of their first term at the University. CLEP testing is periodically available on the campus and is administered by the Office of Instructional Resources.

In accordance with the Articulation Agreement (agreement between public community colleges and public state universities on the acceptance of credit by transfer), the University of Florida awards credit for CLEP examinations based on the following scaled scores:

CLEP General Examination	Minimum Score Required for Credit	Maximum Semester Hours Credit
#English	Scale Score 610	6
Social Sciences	Scale Score 488	6
Biology	Sub Score 50	3
Physical Sciences	Sub Score 49	3
Humanities	Scale Score 489	6
Mathematics	Scale Score 497	6

Additional credit may be awarded for satisfactory scores on certain CLEP subject area examinations. The maximum amount of credit that may be earned or transferred under the CLEP program, both general and subject examinations combined, is 45 semester hours or 67.5 quarter hours. If English Subject Examinations are taken it is imperative that the essay option be taken if credit is to be received for English Composition.

Departmental Examinations: A student may also receive credit through the challenge of departmental course examinations. For specific information, contact the departments or colleges.

#Students should seriously consider their decision about taking the CLEP general examination in English. Experience has shown that those who score below the 75th percentile are often handicapped because they have not had college courses in composition. However, those students who do decide to take the CLEP English examination are required to take the option that includes an essay examination so that their scores will be at least partially based on a writing sample. The minimum score of 610 insures that the essay portion of the exam is eligible for review by UF staff evaluators. This score in itself does not guarantee that credit will be received for English. A favorable review must be received on the essay portion of the exam in addition to the minimum score of 610 in order for credit to be received for English composition.

College of Liberal Arts and Sciences

PART I: Freshmen and Sophomores (Students Classified UF)

College of Liberal Arts and Sciences

INFORMATION FOR FRESHMEN AND SOPHOMORES (STUDENTS CLASSIFIED UF)

Entering freshmen are classified UF. They retain this classification up to but not beyond 80 attempted credits. Students should apply for admission to the college of their major at the appropriate point, usually 64 credits but earlier in the case of some colleges. All students who will have junior standing (60 semester hours) by the end of the Fall 1982 term will be required to take the College Level Academic Skills Program. Each college specifies admission requirements in its section of the catalog.

GENERAL REGULATIONS

Maximum, Minimum, and Normal Loads: The normal course load in this college is 15 credit hours, and all students are expected to carry a normal load. First semester freshmen and transfer students may prefer to carry a lighter load during their first term. Loads lighter or heavier than normal must be justified and approved by the student's academic adviser. Loads of fewer than 12 or more than 19 require approval of the Dean as well as the student's adviser.

Adding/Dropping/Withdrawing: Courses may be added any time during the drop/add period if this does not increase one's registration to more than 19 hours. Courses may be dropped during the drop/add period without penalty as long as this does not lower one's registration below 12 hours (See Maximum, Minimum and Normal Loads above). After the drop/add period, a course may be dropped up to the date established as the College deadline. All drops are subject to the following restrictions:

(1) No more than two (2) such drops, after the University's drop/add period, will be permitted in the student's lower division career, when classified as 1UF or 2UF. A maximum of one drop will be allowed during any semester. Students on academic warning or probation will not be allowed to drop courses, except when extremely well-documented support is furnished.

(2) After the deadline students may petition to drop a course provided they can document sufficient reasons to drop, usually hardship or medical.

(3) The course load will not be reduced below 12 hours. (A petition to the Liberal Arts and Sciences Petition Committee must accompany such a request to drop a course which does reduce the load below 12 hours.)

(4) Final approval to drop a course after the University's drop/add period must be obtained from the Academic Advisement Office, 358 Little Hall. Students must attend all classes for which they are registered. Failure to attend a class will not be accepted by the College as constituting a drop; the only procedure for dropping a class is the proper processing of a drop card which the student must initiate.

(5) Students dropping their entire courseload must contact the Office of the Registrar as this constitutes withdrawal from the University and must be handled by withdrawal procedures established by the Registrar and subject to the published catalog deadlines.

Class Attendance: The University and this College recognize the right of individual professors to make attendance mandatory and, where appropriate, and after due warning, to suspend students from their courses with failing grades for excessive absences. IGNORANCE OF A RULE DOES NOT CONSTITUTE A BASIS FOR WAIVING THAT RULE.

ACADEMIC ADVISEMENT

Initial registration as a freshman for each Fall class is conducted during the preceding summer months. Students and their parents have an opportunity to attend one of several two-day programs. Notices concerning this are mailed in the late Spring to those students who have been admitted by the University Admissions Office. At these Summer Registration Programs, students and parents attend sessions relating to career choice, student activities, helping services and course selection. Each student meets with an academic adviser who assists in selecting courses to take in the Fall.

Those Fall students who cannot attend a Summer Registration Program confer with academic advisers as a part of the registration period held in the week prior to the beginning of classes in the Fall. Students entering college in the Spring or Summer semesters also have advisement conferences as a part of the registration period prior to classes.

In the latter part of each semester, students register for their next semester. Again academic advisers are available to discuss course selection. It is expected that students shall accept responsibility for fulfilling curricular requirements as stated in the catalog, and students who are making successful progress are not required to see an adviser when registering. Students who are changing majors or who are not maintaining a "C" average are urged to talk to an adviser about course selection.

In the first few days of each semester (see deadlines in calendar printed on early pages of this catalog) students should review their course selection and add or drop courses if needed to make a reasonable load for the semester in view of past grades and current goals. If, during the semester, students feel they must drop a course because of illness or other emergency they will find academic advisers available for discussion of the problem. Advisers are also available to help the student define any other academic problem and find corrective measures through the College Academic Advisement Office, 358 Little Hall.

COUNSELING AND RELATED SERVICES

In addition to assistance from academic advisers, students may find that one or more of the following offices can be of assistance in solving personal problems, career selection problems or problems relating to deficiencies in academic skills. The Student Affairs section of this catalog describes their specific services.

1. Reading and Writing Center
2. Speech and Hearing Center
3. Student Health Service (Infirmary)
4. Career Resource Center
5. Psychological and Vocational Counseling Center. Provides professional psychological services to students. These include vocational counseling, career information, assistance with academic problems, specialized testing, marriage counseling and personal counseling. Students and students' spouses may apply in person for such services as they deem necessary. No charge is made. The Counseling Center offers consultative services to University faculty and staff who are engaged in counseling students. Close relationships are maintained with deans, college advisers, housing personnel, the Student Health Service, and religious centers, for the purpose of expediting both counseling and consultative services.

METHODS OF COLLEGE ACCELERATION

Details concerning acceleration are provided in the part of the catalog entitled "TIME SHORTENED DEGREE OPPORTUNITIES."

Students who obtain credit via CLEP or Advanced Placement must do so before starting college, or, at the latest,

prior to the end of their first term at the University. Students who obtain general education credit by examination may take further work in the areas covered, using it for elective credit. Some credit by examination may not serve to accelerate students' programs because the specific course requirements of their majors are not satisfied by general subject matter credit.

A student who chooses to attend three academic semesters each year may accomplish the work of four academic years in three calendar years. Students may take such Summer work at their local community college prior to completion of 64 credits. After completion of 64 credits only work taken at accredited colleges or universities (not junior colleges) is accepted as transfer credit. Students are urged to discuss any such plans with a College academic adviser prior to enrolling in courses at another school.

Unusually able students may choose to accelerate by carrying heavier than average course loads rather than applying themselves more deeply to normal loads. In some majors such students might trim one to two semesters off of the time required for their degrees; however, they do so at considerable risk to the depth and quality of their education.

SPECIAL PROGRAMS FOR UF STUDENTS

1. SPECIAL SERVICES/PACT

The Special Services Program and the Program for Academic Counseling and Tutoring are designed to give educationally disadvantaged students who qualify for admission to the University of Florida assistance in developing those academic skills needed for successful academic and social progress at the University.

The supportive services offered or arranged for by these programs include counseling, academic advisement, tutoring, study skills, reading and writing labs and special classes. Peer Counselors are assigned to students to assist them in making the smooth transition to the university environment.

While admission to the federally-funded Special Services Program is selective and only a limited number of students can participate, the State-supported PACT serves all other incoming students who would benefit from the academic assistance provided through these Programs.

Both of these programs work in close coordination with other supportive services in the planning and implementation of various programs designed to increase retention and graduation efforts at the University of Florida.

2. ACADEMIC ENRICHMENT AND RECRUITMENT SERVICES PROGRAM (AERS)

The Office of Academic Enrichment and Recruitment Services (AERS) works closely with minority high school and community college students to facilitate their matriculation to the University of Florida. Once these students are enrolled, the AERS office continues helping them by providing academic advisement, career guidance, and tutoring. Academic counselors are available to assist students in reviewing career goals, course selection and curricular requirements. The AERS office also serves as a central source of information pertaining to academic enrichment services offered at the University of Florida, and is an adjutant to the Academic Advisement Center in the College of Liberal Arts and Sciences.

3. THE COLLEGE HONORS PROGRAM

This is an invitational program for students who have shown potential for superior academic performance. Invitations are sent after admission to the University to all students who have scored 1260 or above on the Scholastic Aptitude Tests, with not less than 600 on the verbal portion (or 29 composite on the American College Test, with not less than 29 on the English portion), and who have an academic high school grade point average of not less than 3.5 as computed by the University. These students are eligible for special honors classes and housing in an honors dormitory. To remain in the program students must enroll in not less than two honors courses each semester in the first two years and maintain an overall grade point average of 3.00. All honors students must take a two-semester Freshman Honors Seminar and a two-semester sophomore interdisciplinary course as one of the required honors courses each semester. Honors requirements are not in addition to general education requirements but may be used in satisfaction of those requirements. The small sizes of the classes and the high quality of the students make possible more thorough inquiry into course materials and more independent work. Students may enhance their critical faculties through extensive reading, writing of research papers, and oral presentations in class. Students who fulfill the requirements of the honors program with a 3.0 overall average, satisfy the General Education Requirements, and have 64 semester hours of credit, will get the Associate of Arts Certificate with Honors. Those with a 3.5 overall average will receive the Certificate with High Honors. After the sophomore year, the honors program becomes the responsibility of the department in which the student pursues the major course of study. The departmental honors coordinator should be contacted for admission into the upper divison honors program. The upper division honors programs in the College of Liberal Arts and Sciences lead to the baccalaureate degree with either honors or high honors. On the basis of performance in honors courses, if required, a minimum upper divison grade point average of 3.5, and a senior thesis or project, each department will decide whether the student will graduate with honors or high honors.

ASSOCIATE OF ARTS CERTIFICATES

The College of Liberal Arts and Sciences awards the Associate of Arts Certificate of the University. All graduates of the University must complete the general education program and be eligible to receive the Associate of Arts Certificate prior to receiving the baccalaureate degree. Students entering the University of Florida with fewer than 60 credits must remain in a UF classification in the College of Liberal Arts and Sciences at least one semester, after which they may transfer to the college of their major when that college approves. Students who maintain a 2.0 grade point average may remain, barring suspension, in the UF classification beyond 64 credits to complete requirements for admissions to the college of their major, except that no students may remain in this classification beyond 80 credits.

The Associate of Arts Certificate will be awarded upon completion of:

1. 64 credits including authorized credits in general education as indicated for the student's major.
2. An overall C average.

Application forms for the Associate of Arts Certificate are available from the Office of the Registrar and should be returned to the Office of the Registrar.

GENERAL EDUCATION

General Statement

The purpose of general education at the University of Florida is to lay a foundation for lifelong enrichment of the human experience and for lifelong contribution to society. The objective is to encourage all-around development of students as individuals and as members of society, so they may bring balance and perception to every field of their activity.

In summary, the goal of general education at the University of Florida is to prepare students:

1. To think clearly and independently in fields outside their fields of specialty.
2. To express ideas effectively in speech and in writing.
3. To develop a basic understanding of mathematics as language.
4. To gain an understanding of people and the complexity of societies, both their own and others.
5. To develop aesthetic interest and sensibility.
6. To gain an understanding of the scientific method and the societal consequences of research as exemplified by biological and physical sciences.

General Education Requirements

The general education requirement includes four equal parts: (a) Basic Cultural Skills (English and Mathematics), (b) Social and Behavioral Sciences, (c) Natural Sciences, and (d) the Humanities. All students will take a minimum of 36 semester hours of credit from lists of courses especially constructed to provide intellectual balance and breadth.

In planning each semester's program, students should balance general and professional education, science and non-science courses. Undecided students should be careful to make progress in their general education while trying out courses in specific majors. Typically students complete the greater part of their general education in the first two years while also taking the preprofessional courses specified for their majors.

In selecting courses, students should study course descriptions in the back of the catalog, since course titles alone give insufficient information. Freshmen and sophomores are cautioned not to take courses for which they may not be prepared. Where prerequisites are stated, they must be adhered to. Students should consult college and departmental advisers as to whether particular General Education courses hereafter listed may be used to satisfy college distribution and major or preprofessional requirements.

The Director of the Honors Program in the College of Liberal Arts and Sciences is authorized to approve for each student up to twelve hours of freshman and sophomore Honors Seminars IDS 2931 and IDS 3931 to meet general education requirements in appropriate general education distribution areas.

AUTHORIZED COURSES FOR GENERAL EDUCATION

The following courses have been approved by the Council on General Education for use in satisfying general education requirements. In selecting from among these courses, students should keep in mind that the general education part of their university program should serve to increase their fund of knowledge outside their major and should broaden their intellectual horizons.

MATHEMATICS (Minimum Credits Required) 3

Any Mathematics course, (except MAT 1033 and those with a prefix of MAE) OR
Any Statistics course
Suggested for students who need no additional mathematics for their major field:

	Credit		Catalog Page
MGF 1113	(3)	Fundamental Mathematics	280

ENGLISH (Minimum Credits Required) 6

Required of all students:

	Credit		Catalog page
ENC 1101	(3)	Expository and Argumentative Writing	243
ENC 1102	(3)	Writing about Literature	243

Available to Honors Students as Substitutes for the Required Courses:

ENC 2935	(3)	College Honors English	244
ENC 2937	(3)	College Honors English	244

Qualified students, with the approval of the English Department, may substitute a literature or composition course at a higher level in the place of ENC 1102. (Students in need of special preparation will be required to take ENC 1000 Developmental English. Students scoring low on the Test of Standard Written English will complete a writing sample which will determine which students need Developmental English. ENC 1000 will carry 3 credits but may not be used in satisfaction of General Education requirements.)

SOCIAL AND BEHAVIORAL SCIENCES (Minimum Credits Required) 9

The requirements in the Behavioral and Social Sciences enable the student (1) to become acquainted with the approach of the Social Sciences disciplines to the study of human beings and their societies, and (2) to become acquainted with how a Social Science discipline is applied to or is useful in understanding the social world. The curriculum offered allows flexibility to sample the offerings of more than one discipline and to choose courses around a theme which may be of special interest to the student. Each student must select two courses from Group I and one course from Group II. No more than two of the three courses chosen may be from the same department.

	Credit		Catalog Page
Social/Behavioral			
GROUP I. Foundations of the Social/Behavioral Sciences			
Anthropology			
ANT 2402	(3)	Anthropology and Modern Life	204
ANT 2410	(3)	Cultural Anthropology	204
MAF 2402	(3)	Human Sexuality and Society	204
Economics			
ECO 2000	(3)	Economic Concepts and Institutions	229
ECO 2013	(3)	Basic Economics I	229
Geography			
GEO 1010	(3)	Geography for a Changing World	260
GEO 2410	(3)	Social Geography	260
History			
AMH 2010	(3)	U.S. History to 1877	264
AMH 2020	(3)	U.S. History Since 1877	264
AMS 2030	(3)	Introduction to American Studies	202
Interdisciplinary			
SSI 2110	(3)	American Institutions I	318
SSI 2114	(3)	American Institutions Honors I	318
SSI 2120	(3)	American Institutions II	318
SSI 2124	(3)	American Institutions Honors II	318
Political Science			
INR 2002	(3)	International Relations	309
POS 2041	(3)	American Federal Government	310
POS 2112	(3)	American State and Local Government	310
Psychology			
PCO 2714	(3)	Personal Growth	314
PSY 2013	(3)	General Psychology	314
SOP 2513	(3)	Human Conflict	314
Religion			
REL 2322	(3)	Patterns of American Religion	317
Sociology			
SOC 2000	(3)	Principles of Sociology	319
SOC 2005	(3)	Principles of Sociology: Honors	319
SOC 2020	(3)	Social Problems	319
Speech			
SPC 2300	(4)	Introduction to Speech Communication	322
GROUP II. Uses of the Social/Behavioral Sciences			
Anthropology			
ANT 2141	(3)	Development of World Civilization	204
ANT 2610	(3)	Language and Culture	204
ANT 3241	(3)	Anthropology of Religion	204
ANT 3302	(3)	Sex Roles: A Cross-Cultural Perspective	204
ANT 3433	(3)	Culture and Personality	204
Computer and Information Sciences			
COC 3400	(3)	Computers and Modern Society	227
Geography			
GEO 2420	(3)	Geography of World Societies	260
GEO 2500	(3)	Geography of World Economies	260

History

AMH 3460	(3)	U.S. Urban History	265
AMH 3530	(3)	Immigration and Ethnicity	265

Interdisciplinary

BES 2121	(3)	Creative and Critical Thinking	211
WST 3010	(3)	Interdisciplinary Perspectives on Women	328

Political Science

CPO 2002	(3)	Comparative Politics	312
INR 2054	(3)	Alternative World Futures	309
INR 3102	(3)	U.S. and World Affairs	309
POT 2001	(3)	Power, Ethics, and the Modern State	310
PUP 3204	(3)	Politics, Ecology, and Energy	311

Psychology

DEP 3003	(3)	Developmental Psychology	316
EXP 3604	(3)	Introduction to Cognition and Perception	313
PPE 3004	(3)	Psychology of Personality	314
SOP 3004	(3)	Social Psychology	315

Religion

REL 2021	(3)	The Individual and Religious Experience	317

Sociology

MAF 2200	(3)	Marriage and the Family	319
SOC 3110	(3)	Deviance	319
SOC 3300	(3)	Community Growth and Change	319
SOC 3331	(3)	Latin American Societies	319
SOC 3745	(3)	Minorities in American Society	319

Speech

SPC 3710	(3)	Patterns of Intercultural Communication	322

HUMANITIES (Minimum Credits Required) 9

The requirements in the Humanities provide the student broad opportunities to develop insights into humanistic studies from both topical and chronological perspectives. Each student must take three courses in Humanities, at least two of which must be chosen from Groups I and II. No more than two of the three courses may be selected from any one of the following subject categories: History, Interdisciplinary, Literature, Philosophy — Religion, Fine Arts, and Humanities and the Professions.

GROUP I. Ancient Times through the Renaissance

	Credit		Catalog Page
History			
ARH 2050	(4)	Introduction to the Principles and History of Art I	208
EUH 2000	(3)	Western Civilization: From Early Times to Middle Ages	266
HIS 2463	(3)	Introduction to the History of Science: Origins to The Renaissance	268
HIS 3470	(3)	History of Technology I	268
Interdisciplinary			
ARC 1701	(3)	Survey of Architectural History I	206
CLA 1100	(3)	The Glory That Was Greece	223
CLA 1120	(3)	The Grandeur That Was Rome	223
CLT 2370	(3)	Myths of the Greeks and Romans	223
HUM 2210	(3)	Western Humanities: Ancient to Renaissance	269
HUM 2229	(3)	Western Humanities: College Honors	269
Literature			
CLT 2230	(3)	The Ancient Novel	223
CLT 3340	(3)	Greek and Roman Epic	223
ENL 2012	(4)	Survey of English Literature: Medieval to 1750	244
FRT 2420	(3)	The French Literary Heritage I: Medieval to Classical	255
LIT 2110	(3)	Survey of World Literature: Ancient to Renaissance	244
LIT 3111	(3)	Great Books of the Western World I	245
LIT 3374	(3)	The Bible as Literature	245
SCA 2502	(3)	Norse and Germanic Mythology	254
Philosophy-Religion			
CLT 2371	(3)	Religions of the Graeco-Roman World	223
PHH 2100	(3)	Philosophical Origins, I	298
REL 2202	(3)	Survey of Biblical History and Religion	317
REL 3500	(3)	History of Christianity	317
REL 3600	(3)	Introduction to Judaism: Classical Period	317

GROUP II. Renaissance to Modern Times

	Credit		Catalog Page
History			
EUH 2001	(3)	Western Civilization: Middle Ages to 18th Century	266
EUH 2002	(3)	Western Civilization: 18th Century to Present	266
HIS 2464	(3)	Introduction to the History of Science: Renaissance to Present	268
Interdisciplinary			
AFA 2000	(3)	Introduction to Afro-American Studies	199
HUM 2230	(3)	Western Humanities: Renaissance to the Present	269
HUM 2239	(3)	Western Humanities: Renaissance to the Present, Honors	269
Literature			
AML 2012	(3)	Survey of American Literature: From the Beginnings through Crane	243
AML 2021	(3)	Survey of American Literature: From Crane to the Present	243
AML 3271	(3)	Afro-American Literature	243
ENL 2022	(4)	Survey of English Literature: 1750 to the Present	244
FOT 2120	(3)	Masterpieces of Continental Literature	252
FRT 2413	(3)	The French Literary Heritage II: Classical to Modern	255
GET 2480	(3)	German Literary Heritage	253
LIT 2120	(3)	Survey of World Literature: 17th Century to Modern	244
LIT 3121	(3)	Great Books of the Western World II	245
LIT 3353	(3)	Ethnic Literature	245
RUT 2110	(3)	Russian Masterpieces	254
SPT 2231	(3)	The Modern Spanish-American Novel in English Translation	256
SPT 2601	(3)	Masterpieces of Spanish Literature	257
Philosophy-Religion			
PHH 2400	(3)	Philosophical Origins II	298
PHI 2630	(3)	Contemporary Moral Issues	297
REL 3420	(3)	Contemporary Religious Thought	317
REL 3494	(3)	Human Image in the West	317
REL 3601	(3)	Introduction to Judaism: Modern Period	317

GROUP III: Special Topics in the Humanities

	Credit		Catalog Page
History			
AFA 2003	(3)	Africa in World History	264
AFS 2002	(3)	The African Experience — An Introduction to African Studies	199
CHI 3500	(3)	Chinese Culture	252
CLA 3791	(3)	The Ancient City	223

HIS 3471	(3)	History of Technology II	268
LAH 2020	(3)	Introduction to Latin American History	267

Interdisciplinary

HUM 2020	(3)	Humanities Forum	269
HUM 2030	(3)	The Culture of Western Civilization	269
HUM 2410	(4)	Asian Humanities	269
HUM 2420	(3)	African Humanities	269
HUM 2424	(3)	African Cultures and Literatures	269
HUM 2460	(3)	Latin American Humanities	269
LIN 2000	(3)	Language and People	275
HUM 2513	(3)	Museum without Walls	269
IDS 2190	(3)	The Ascent of Mankind	269
IDS 3181	(3)	Social Ethics	274

Fine Arts

HUM 2510	(3)	Introduction to the Fine Arts	249
MUL 2011	(3)	Introduction to Music Listening	289
MUL 2112	(3)	Masterworks of Music	289
THE 2000	(3)	Theater Appreciation	325

Philosophy-Religion

PHI 2403	(3)	Science, Myth, and Value	297
PHM 2204	(3)	Social Issues and Social Thought	299
REL 2001	(3)	Religion in Human Experience, A (Western)	317
REL 2002	(3)	Religion in Human Experience, B (Asian)	317
REL 3321	(3)	Judaism and Christianity	317

Humanities and the Professions

EGN 4834	(3)	Humanities and Engineering	273
HCA 4410	(3)	Humanities and Medicine	273
HIS 3490	(3)	History of Western Medicine	273
HIS 3491	(3)	Social History of American Medicine	273
HUM 4564	(3)	Humanities and Law	274
IDS 4162	(3)	Humanities and Business Administration	274
PHI 4633	(3)	Ethical Issues in Medicine	274

PHYSICAL SCIENCES (3-6 credits — See note below.)
The requirements in the Physical Sciences enable the student (1) to become acquainted with the basic concepts and methods of scientific inquiry in the Physical Sciences, and (2) to become acquainted with the application and/or implications of the Physical Sciences. The curriculum allows flexibility to sample the offerings of more than one discipline or to choose a theme to pursue which may be of special interest to the student.

Option A. One course from Group I, followed by one course from Group II. Some courses in Group II have prerequisites from Group I.

	Credit		*Catalog Page*
GROUP I. Foundations of the Physical Sciences			
AST 1002	(3)	Discovering the Universe	210
CHM 1020	(3)	Chemistry and Society	219
GEO 2200	(3)	Physical Geography	260
GLY 1000	(3)	Exploring the Geological Sciences	261
PHY 2001	(3)	Introduction to Principles of Physics	305
PSC 2501	(3)	Our Environment	303
GROUP II. Uses of the Physical Sciences			
AST 2037	(2)	Life in the Universe	210
AST 2039	(2)	Exploration of the Universe	210
CHM 1021	(3)	Chemistry and Society	219
GEO 2201	(3)	Physical Landscapes	260
GLY 1817	(3)	Mineral Resources of the World	261
ISC 2452	(3)	Our Interactions with the Physical Environment	303
MET 1010	(3)	Introduction to Weather and Climate	211
OCE 2005	(3)	Introductory Oceanography	262
PHY 2037	(3)	Physics for Skeptics	305
PHY 3400	(3)	Light, Color and Holography	306
PSC 2121	(3)	Natural Regions	303
PSC 2707	(3)	The Physical Sciences: College Honors	303
PSC 2900	(3)	Scientists and Scientific Concepts	303
PSC 3402	(3)	Space and Society	303

Option B. (Recommended for science majors, engineering majors, and preprofessional students.) One of the following sequences. Prerequisites must be adhered to.

CHM 2040-1	(3;3)	General Chemistry I, II	219
CHM 2042-3	(3;3)	General Chemistry and Qualitative Analysis, I, II	219
CHM 2051-2	(3;3)	General Chemistry Honors I, II	219
CHM 2053	(3)	General Chemistry Honors II	219
GLY 2015	(3)	Physical Geology	261
GLY 2100	(3)	Historical Geology	261
GLY 2991C	(3)	Physical Geology-Honors	261
PHY 2004-5	(3;3)	Applied Physics I, II	305
PHY 2048-9	(3;3)	General Physics with Calculus I, II	305
PHY 2053-4	(3;3)	General Physics I, II	306
PHY 2066-7	(3;3)	General Physics Honors I, II	306

NOTE: The science requirements call for at least three credits in the Physical Sciences or the Biological Sciences with an additional six credits from the other.

BIOLOGICAL SCIENCES (3-6 credits — See note below.)
The requirements in the Biological Sciences are designed to enable a student to understand the bases for scientific inquiry, and to use this knowledge to understand our biological environment and the place of humans in it. Two courses of study have been devised: (1) for natural science majors, and (2) for non-science majors.

	Credit		*Catalog Page*
Recommended for Science Majors and Preprofessional Students (Premedical, predental, preoptometry, preveterinary).			
Prerequisites must be adhered to.			
BSC 2010	(4)	Integrated Principles of Biology I	212
BSC 2011	(4)	Integrated Principles of Biology II	212
BSC 2040	(4)	Integrated Principles of Biology I, Honors Laboratory	212
BSC 2041	(4)	Integrated Principles of Biology II, Honors Laboratory	212
Recommended for Non-Science Majors:			
APB 2150	(3)	Biological Sciences I: Cells, Organisms, and Genetics	212
APB 2151	(3)	Biological Sciences II: Evolution, Ecology, and Behavior	212
APB 2991	(3)	Honors Biological Sciences I: Cells, Organisms, and Genetics	212
APB 2992	(3)	Honors Biological Sciences II: Evolution, Ecology, and Behavior	212
Substitutions for the Non-Science Sequence: (not acceptable in some colleges) For APB 2150:			
APB 2170	(4)	Microbiology	285
HUN 2201	(3)	Fundamentals of Human Nutrition	251
For APB 2151:			
ANT 3511	(4)	Physical Anthropology	204

NOTE: The science requirements call for at least three credits in the Physical Sciences or the Biological Sciences, with an additional six credits from the other.

PLANS OF STUDY BY COLLEGE OF MAJOR

On the following pages, specific general education requirements are listed for each college and/or major. Students are expected to follow the program of general education specified for their particular baccalaureate goal. In other words the particulars of students' general education depend upon their choice of major and choice of courses within the limits set by the major. Associate of Arts Certificates are awarded on this basis. Preprofessional courses for students' first two years are also listed.

Suggested course sequences are not at all rigid. Students should adjust programs to fit their ability and background. Academic advisers will help do this.

LIBERAL ARTS AND SCIENCES

The College of Liberal Arts and Sciences offers degrees with majors in thirty-one different major fields, plus an interdisciplinary major. Students who expect to obtain a degree from the College of Liberal Arts and Sciences should complete the General Education Courses listed below and elective courses, with a C or better average. Students with a grade of D in any of these courses must complete a course in the same area with a grade of C or better before graduation.

Students must complete the General Education and Distribution Requirements listed below. Note that the Basic Distribution Requirement must also be met prior to graduation. Many courses will serve in satisfying both requirements. Some will not.

General Education and Distribution Requirements

	Credits
English	6
Mathematics	6

(Botany, chemistry, computer science, economics, mathematics, premedical, predental, physics, statistics, and zoology majors should not take MGF 1113, but follow a calculus sequence.)

Social and Behavioral Sciences	9
The Humanities	9
Physical Sciences	6

(Botany, chemistry, microbiology, physics, premedical, predental, and zoology majors should take courses in chemistry.)

Students majoring in Computer Sciences should take a physics sequence for Physical Sciences.

Biological Sciences	6

(Botany, premedical, predental, and zoology majors should take courses in zoology and botany or Core Biology. All students must earn at least a grade of C in one course in a biological science department: APB, BSC, BOT, MCB, ZOO.)

A great amount of flexibility is available to the liberal arts student. Certain general guidelines are:

1. Study the materials on admission, advisement, and requirements for degrees, and consult with the proposed major department as soon as you have chosen a major field.

2. Take courses in your major and take electives.

3. All candidates for degrees awarded by the College of Liberal Arts and Sciences are required to have at least a minimum proficiency in some foreign language. The requirement may be met by the satisfactory completion of a beginning course sequence in one foreign language (10 semester hours). Students who plan to continue the study of a language which they began at another institution must take a placement test before registering. If the minimum proficiency called for above is demonstrated by examination, this will constitute satisfaction of the foreign language requirement. The foreign language requirement should be completed as early as possible, preferably in the freshman and sophomore years.

4. Complete one course in science having a laboratory, prior to graduation (not necessarily prior to admission to the upper division). Students may satisfy this requirement while they are in the lower division by successfully completing a Liberal Arts and Sciences course in science which has a laboratory. *A grade of at least C is required.*

Teacher Preparation in Liberal Arts and Sciences

Students may earn their degrees in the College of Liberal Arts and Sciences and complete requirements for certification as secondary school teachers in one or more academic subjects by following one of the Arts and Sciences — Education Programs described in the College of Education section in this catalog.

Further information may be obtained in the College of Liberal Arts and Sciences Advisement Office, 358 Little Hall.

Standards For Students Who Change To 3LS Classification.

(1) Students are strongly urged to complete the foreign language requirement prior to application for admission into the College. Those students admitted without having demonstrated the necessary foreign language competency will be required to register for an appropriate course and to make satisfactory progress every semester until they have completed the foreign language requirement.

(2) UF students should make every effort to finish distribution requirements: three additional hours each in mathematics and science, and one course in science having a science laboratory, in their freshman and sophomore years. Students who have not satisfied the College distribution requirement prior to admission will be expected to make reasonable progress each term toward its completion, as with the foreign language requirement.

(3) Every student will be expected to make satisfactory progress each term toward satisfying the requirements of an approved major within the College of Liberal Arts and Sciences.

ACCOUNTING

Students planning to enter the School of Accounting should take, while classified UF, the following program of study. Students with questions concerning the Preprofessional Requirements may wish to contact an adviser in the School of Accounting.

General Education Requirements

	Credits
ENC English, including ENC 1101	6
*MAC 3223 Survey of Calculus 1	3
Behavioral Studies	3
Social Sciences	6
The Humanities	9
Physical Sciences	3-6
Biological Sciences	6-3

Preprofessional Requirements

	Credits
**ACC 2001 Introduction to Accounting	5
ECO 3411 Economics and Business Statistics	3
***ECO 2013-2023 Basic Economics	6
MAC 3224 Survey of Calculus 2	3
STA 3023 Introduction to Statistics	3

Electives to make a total of 64 hours

*MAC 3223 is also considered a preprofessional course.

**ACC 2001 is required for Accounting Majors. A grade of "B" or better is required in this course (or equivalent) to register for accounting major courses.

***May not be used for General Education Social Science credit.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
ENC 1101 Expository and Argumentative Writing	3
Social Science	6

Physical Science	3
Biological Science	3
Behavioral Science	3
Humanities	6
English Elective	3
Electives	5

SOPHOMORE YEAR

MAC 3223 Calculus 1	3
MAC 3224 Calculus 2	3
ACC 2001 Introduction to Accounting	5
ECO 2013 Basic Economics	3
ECO 2023 Basic Economics	3
STA 3023 Introduction to Statistics	3
ECO 3411 Economic and Business Statistics	3
Physical or Biological Science	3
Humanities	3
Electives	3

AGRICULTURE

Students planning to enter the College of Agriculture should take, while in lower division, the following program of study. The sequence in which courses are to be taken will depend upon the department in which a student takes his upper division major and will be determined by counselors in the College of Agriculture.

	Credits
English	6
MAC 1132 Algebra and Trigonometry	4
Behavioral Studies	3
Social Sciences	6
The Humanities	9
CHM 2040 Introductory General Chemistry	3
PHY 2004 & 2004L Applied Physics	4
BSC 2010C Integrated Principles of Biology I	4

Preprofessional Requirements

CHM 2041, 2042L and 2043C General Chemistry and Qualitative Analysis	8
AEB 3103 Principles of Food & Resource Economics	4
Communications	6
Selected from SPC 3601, ENC 3352 and AGG 4603	
Electives	7-10

A. Prospective majors in Animal Science, Dairy Science, Food Science, Poultry Science, pre-Veterinary Medicine, and Microbiology and Cell Science should take courses listed above plus BSC 2011C. Microbiology majors should substitute BOT 2011C for BSC 2011C.

B. Prospective majors in Dairy and Poultry Management may satisfy the Chemistry requirements by completing CHM 2040, CHM 2041L, and 2042L.

C. Prospective majors in Agronomy, Fruit Crops, Ornamental Horticulture, Plant Pathology, Soil Science, and Vegetable Crops should take the courses listed above plus BOT 2011C.

D. Entomology majors should take BSC 2011C in addition to the above to complete biology requirements.

E. Prospective majors in Food and Resource Economics should take the courses listed above but may substitute MAC 3311 or MAC 3223 for PHY 2004 and 2004L and may fulfill Chemistry requirements by completing CHM 2040, 2041, and 2042L or CHM 1020 and 1021.

F. Prospective majors in Agricultural Education, Mechanized Agriculture, Food and Resource Economics may satisfy Biology requirements by completing APB 2150, APB 2151, APB 2152L.

G. Prospective majors in Microbiology and Cell Science must satisfy Mathematics and Physics requirements by completing MAC 3311 and PHY 2053, 2054 with laboratories.

H. Prospective majors in Food Science must take PSY 2013 to satisfy the BES requirement.

Suitable electives in Agriculture: AEB 3133 or 3300, MAC 3220 and 3312, ASG 3003, ENY 3005, FOR 2003, FOS 2001 and 2002, PLP 3002, SOS 3022, PLS 2031, ORH 3513C, FRC 3212 and other according to prerequisites completed.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
English	3
Social Sciences	3
MAC 1132 Algebra and Trigonometry	4
Behavioral Studies	3
CHM 2040 General Chemistry	3
English	3
Social Sciences	3
CHM 2041, 2042L Chemistry	4
PHY 2004 & 2004L	4
Electives	2

SOPHOMORE YEAR

Humanities	3
CHM 2043C Chemistry	4
BSC 2010C Integrated Principles of Biology I	4
Communications	3
Electives	2
Humanities	3
AEB 3103 Food Resource Economics	4
BSC 2011 Integrated Principles of Biology II	4
Humanities	3
Communications	3

ARCHITECTURE

Students planning to enter the College of Architecture should take, while classified UF, one of the following programs of study. They should consult the departmental major adviser for specific information regarding grade point averages, minimum grades required in certain courses and other information relating to the Curriculum. Advisers are listed in the catalog under the section titled, "College of Architecture."

To be eligible for admission to the College of Architecture, the student is required to have at least a 2.0 (C) average in the courses listed in the appropriate curriculum for the first two years. In addition the student must earn a 2.0 (C) average in all preprofessional work included in the first two years of the program. Please refer to additional information in the section of this catalog titled "College of Architecture," under the heading "Requirements for Admission".

For Upper Division programs see the College of Architecture and School of Building Construction sections of the catalog.

A. FOR THE DEGREE, BACHELOR OF DESIGN (ARCHITECTURE)

General Education Requirements

	Credits
English	6
Social Sciences	6
The Humanities	9
BES Behavioral Studies	3
Physical Sciences	3
PHY 2004 Applied Physics 1	3
Biological Sciences	3
MAC 3223 Survey of Calculus 1	3

Preprofessional Requirements

ARC 1126 Architectural Communications 1	3
ARC 1131 Architectural Communications 2	3
ARC 1211 Building Arts	2
*ARC 1701 Survey of Arch. History	3
ARC 1701L Survey of Arch. History Lab	1
ARC 2201 Theory of Architecture	2
ARC 2311 Architectural Design 1	4
ARC 2313 Architectural Design 2	4
ARC 2461 Mat. & Meth. of Constr. 1	3
ARC 2580 Architectural Structures 1	4

ARC 2681 Environmental Technology 1 2
CIS 4930 Introduction to Computers 1

*Satisfies 3 hrs. of General Education requirement for Humanities.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
ARC 1126 Architectural Communications 1	3
ARC 1211 Building Arts	2
Physical Sciences	3
MAC 3223 Survey of Calculus 1	3
Humanities	3
BES Behavioral Studies	3
Total	17

ARC 1131 Architectural Communications 2	3
ARC 1701 & 1701L Survey of Architectural History & Lab	4
Social Sciences	3
English	3
PHY 2004 Applied Physics 1	3
Total	16

SOPHOMORE YEAR

ARC 2201 Theory of Architecture	2
ARC 2311 Architectural Design 1	4
ARC 2461 Materials & Methods of Construction 1	3
English	3
Biological Science	3
Total	15

ARC 2313 Architectural Design 2	4
ARC 2580 Architectural Structures 1	4
ARC 2681 Environmental Technology 1	2
CIS 4930 Introduction to Computers (Special Topics)	1
Social Sciences	3
Humanities	3
Total	17

B. FOR THE DEGREE, BACHELOR OF DESIGN (INTERIOR DESIGN)

General Education Requirements

	Credits
English	6
Humanities	9
BES Behavioral Studies	3
Physical Sciences	3
Mathematics	3
Social Sciences	6
Biological Sciences	3

Preprofessional Requirements

Physical Sciences (Applied Physics)	3
Mathematics (Survey of Calculus 1 or Algebra & Trig)	3
History of Interior Design I & II	4
Computers	1
ARC 1126 Architectural Communications 1	3
ARC 1211 Building Arts	2
ARC 1131 Architectural Communications 2	3
*ARC 1701 Survey of Arch. History	3
ARC 1701L Survey of Arch. History Lab	1
ARC 2311 Architectural Design I	4
ARC 2461 Materials & Methods of Construction 1	3
ARC 2201 Theory of Arch	3
ARC 2313 Architectural Design II	4
ARC 2580 Architectural Structures I	4
ARC 2681 Intro to Environmental Technology I	2

*Satisfies 3 hrs. of General Education requirement for Humanities.

All entering students should consult with Program Director for course scheduling and sequencing.

Suggested Course Sequence

FRESHMAN YEAR

Semester 1	Credits
ARC 1126 Architectural Communications 1	3
ARC 1211 Building Arts	2
Physical Sciences	3
MAC 3223 Survey of Calculus 1	3
English	3
Social Science (Recommend Intro to Sociology)	3
Total	17

Semester 2	
ARC 1131 Architectural Communications 2	3
ARC 1701 Survey of Arch. History	3
ARC 1701L Survey of Arch. History Lab	1
PHY 2004 Applied Physics I	3
English	3
Social Science	3
Total	16

SOPHOMORE YEAR

Semester 1	
ARC 2311 Architectural Design 1	4
ARC 2461 Materials & Methods of Construction I	3
ARC 2201 Theory of Architecture	2
IND 2100 History Interior Design I	2
Humanities (Recommend Theater Appreciation)	3
Biological Sciences	3
Total	17

Semester 2	
ARC 2313 Architectural Design 2	4
ARC 2580 Architectural Structures I	4
AR 2681 Intro. to Environmental Technology	2
IND 2130 History Interior Design II	2
Humanities	3
CIS 4930 Introduction to Computers (Special Topics)	1
Total	16

66 hours is the minimum of general education and preprofessional courses which must be completed prior to entry to the preprofessional program.

C. FOR THE DEGREE, BACHELOR OF LANDSCAPE ARCHITECTURE

General Education Requirements

English	6
Social Sciences SOC 2000, SSI 2120	6
Humanities	9
BES Behavioral Studies	3
Physical Sciences PSC 2501, GLY 2015	6
Biological Sciences BOT 1010 or BOT 2710	3
Mathematics MAC 3223	3

Preprofessional Requirements

ARC 1126 Architectural Communications 1	3
ARC 1131 Architectural Communications 2	3
ARC 1211 Building Arts	2
*ARC 1701 Survey of Arch. History	3
ARC 1701L Survey of Arch. History Lab	1
ARC 2201 Theory of Architecture	2
ARC 2311 Architectural Design 1	4
ARC 2313 Architectural Design 2	4
ARC 2461 Mat. & Meth. of Constr. 1	3
ARC 2580 Architectural Structure 1	4
LAA 2710 Landscape Architecture 1	4
LAA 2711 Landscape Architecture 2	4

*Satisfies 3 hrs. of General Education requirement for Humanities.

71 hours (minimum) of general education and preprofessional courses are required. (BES is programmed for 3rd year).

All entering students should consult with the Program Adviser for course scheduling and sequencing.

COLLEGE OF LIBERAL ARTS AND SCIENCES

Preprofessional Program

FRESHMAN YEAR

Semester 1	Credits
English	3
Physical Science	3
Introduction to Sociology	3
BOT 1010 Botany	3
ARC 1211 Building Arts	2
ARC 1126 Architectural Communications 1	3
	Total 17

Semester 2	
English	3
Geology	3
MAC 3223 Survey of Calculus 1	3
ARC 1701 Survey of Arch. History	3
ARC 1701L Survey of Arch. History Lab	1
ARC 1131 Architectural Communications 2	3
	Total 16

SOPHOMORE YEAR

Semester 1	
Humanities	3
ARC 2201 Theory of Architecture	2
CIS 4930 Introduction to Computers (Special Topics)	1
ARC 2311 Architectural Design 1	4
LAA 2710 Landscape Architecture I	4
ARC 2461 Materials & Methods of Construction 1	3
	Total 17

Semester 2	
Humanities	3
ARC 2313 Architectural Design 2	4
LAA 2711 Landscape Architecture 2	4
ARC 2580 Architectural Structures 1	4
Social Science	3
	Total 18

BUILDING CONSTRUCTION

Students planning to enter the School of Building Construction should take, while classified UF, the following program of study. They should consult the School adviser for specific information regarding grade point averages, minimum grades required in certain courses and other information relating to the curriculum.

To be eligible for admission to the School of Building Construction, the student is required to have at least a 2.0 (C) average for the first two years. In addition, the student must earn a 2.0 (C) average in all preprofessional work included in the first two years of the program. Please refer to additional information in the section of this catalog titled "School of Building Construction," under the heading "Requirements for Admission."

For the Upper Division program see the School of Building Construction section of the catalog.

General Education Requirements

	Credits
English ENC 1101 Expos. & Arg. Writing; ENC 1102 Writing About Literature	6
Social Sciences	6
Humanities	9
*PHY 2004, 2005 Applied Physics. I & II, PHY 2004L	7
Biological Science I APB 2150	3
**MAC 3223 Survey of Calculus I	3
Behavioral Studies	3

Preprofessional Requirements

*BCN 1210 Construction Materials	3
***GLY 2026 Geology for Engineers	3
BCN 1251 Construction Drawing I	3
ECO 2013 Basic Economics I	3
Principles of Accounting	3
*ENC 3213 Technical Writing & Business Comm	3
*ARC 2580 Architectural Structures 1	4
COP 3210 Computer Programming Using Fortran	2
Elective	3

*Minimum C grades are required in BCN 1210, ENC 3352, ARC 2580 and in either PHY 2004 or PHY 2005, but not both.

**Students who do not have background for calculus should take MAC 1132, or MAT 1033 and MAC 1132L, before MAC 3223. Credits may be used for the elective.

***GLY 2015 may be substituted for GLY 2026.

Suggested Course Sequence

FRESHMAN YEAR

Semester 1	Credits
ENC 1101 Expository and Argumentative Writing	3
MAC 3223 Survey of Calculus I	3
APB 2150 Biological Sciences I	3
BCN 1210 Construction Materials	3
Social Sciences	3

Semester 2	
ENC 1102 Writing About Literature	3
PHY 2004 Physics I	3
BCN 1251 Construction Drawing I	3
Humanities	3
Social Sciences	3

SOPHOMORE YEAR

Semester 1	
ENC 3213 Technical Writing and Business Comm	3
PHY 2005 Physics II	3
PHY 2004L Laboratory for PHY 2004 and PHY 2005	1
Behavioral Studies	3
Principles of Accounting	3
Humanities	3

Semester 2	
GLY 2026 Geology for Engineers	3
ARC 2580 Architectural Structures 1	4
ECO 2013 Basic Economics I	3
COP 3210 Computer Programming using Fortran	2
Humanities	3
Elective	3

BUSINESS ADMINISTRATION

The College of Business Administration offers degrees in seven major fields which are listed in the Business Administration section of the catalog. Students who expect to receive a degree in one of the business majors must complete: (1) the General Education courses and the Preprofessional requirements listed below and elective courses for a total of at least 64 hours; and (2) satisfactorily complete the upper division requirements.

Students who plan to major in Accounting please see the section headed School of Accounting.

General Education Requirements
(For all majors in Business Administration)

	Credits
English	6
*MAC 3223 Survey of Calculus I	3
Behavioral Studies	3
Social Sciences	6
Humanities	9
**Physical Sciences	3-6
**Biological Sciences	6-3

Preprofessional Requirements
a. For Finance, Economics, Insurance, Management, Marketing and Real Estate and Urban Analysis majors:

	Credits
ACC 2001 Elementary Financial Accounting	5
ECO 2013, 2023 Basic Economics	6
MAC 3224 Survey of Calculus II	3
STA 3023 Introduction to Statistics	3
ECO 3411 Economic and Business Statistics	3
Electives to make a total of 64 hours	

b. For Computer Information Sciences majors:

	Credits
ACC 2001	5
ECO 2013, 2023 Basic Economics	6
COC 3110 Introduction to Computing	3
MAC 3224 Survey of Calculus II	3
STA 3023 Mathematical Statistics	3
STA 4033 Mathematical Statistics with Computer Applications	2
CDA 3101 Introduction to Computer Organization	3
Electives to make a total of 64 hours	

*MAC 3223 is also considered a preprofessional course.
**Students are expected to complete 9 hours of the Sciences. Choose elective courses needed to complete the total 64 semester hours in the university transfer program from such areas as mathematics, natural sciences, social science, foreign language, and humanities.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
English	3
Social Science	3
Physical Science	3
MAC 3223 (or MAC 1132 if needed)	3
Behavioral Studies	3
English	3
Social Science	3
Biological Science	3
MAC 3224	3
Humanities	3

SOPHOMORE YEAR

Humanities	3
***ECO 2013	3
Biological or Physical Science	3
Statistics 3023	3
Electives	5
Humanities	3
ECO 2023	3
ACC 2001	5
ECO 3411	3
Electives	3

***May not be used for General Education Social Science credit.

EDUCATION

ELEMENTARY AND EARLY CHILDHOOD EDUCATION

General Education Requirements

	Credits
Social and Behavior Sciences	9
Physical Sciences	6
English	6
Fundamental Mathematics	3
The Humanities	9
Biological Sciences	9

One semester of Biological Science or of Physical Science may either be omitted or taken as an elective. Students may not use AGG 2501, ANT 3511, ECH 3783, FOR 2010, FOS 2001, HUN 2201, SOS 3215 to meet the biological science requirement. Acceptable courses to meet the English requirement are limited to ENC 1101, ENC 1102, ENC 3213, ENC 3310, ENC 3312, ENC 4260, CRW 2100, CRW 2300, CRW 3110, CRW 3311, ENG 2131, ENG 2935, LIN 3370, LIN 4100, LIT 2931.

Preprofessional Requirements

1. At least 64 credits are required for admission to upper division. The College of Education will accept those students who present the best records and show the most promise of success in a teacher education program. See the College of Education section of the catalog for further information relating to admission to upper division.
2. The following courses may be taken in the Sophomore year or delayed until the Junior year;
   a. MUE 2402 (Students must have a 2.0 average and have completed 42 hours)
   b. ENG 4161
3. Speech requirements may be completed in the Sophomore year or delayed until the Junior year. This requirement is met by successful completion of SPC 2300 or 3601 or by successfully passing the speech screening test administered by the Speech Department. Information about the speech screening test is available in room 134, Norman Hall.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
*Social and Behavior Sciences	9
**Physical Sciences	3-6
***English	6
Electives	12
	30-33

SOPHOMORE YEAR

	Credits
****The Humanities	9
***Biological Sciences	3-6
Mathematics	3
Electives	14
	29-32

*Six of the nine semester hours of Social and Behavior Sciences must be from the areas of History, Anthropology, Sociology, Political Science, Economics and Geography.
**One semester of Biological Sciences or Physical Sciences may either be omitted or taken as an elective.
***See statement under General Education Requirements for acceptable English courses.
****Students may not use history courses to meet the Humanities requirements.

SECONDARY EDUCATION OR K-12 PROGRAMS

Secondary Education students wishing certification for teaching in grades 7-12 may work toward degrees in either the College of Education or the College of Liberal Arts and Sciences.

Certain other programs prepare students for careers at all levels of teaching from kindergarten through grade 12 (K-12). These special programs are:

Art (through either the College of Education or the College of Fine Arts)

Health Education (through the college of Physical Education, Health and Recreation)

Music (through the College of Fine Arts)

Physical Education (through the College of Physical Education)

Special Education—Mental Retardation (through the College of Education)

Speech Pathology and Audiology (through either the College of Education or the College of Liberal Arts and Sciences)

All secondary and K-12 programs are specified in the College of Education section of the catalog.

All Lower Division students working toward degrees in Secondary Education or K-12 programs with the exception of science education and music education will pursue the following program:

General Education Requirements

	Credits
Social and Behavior Sciences	9
Physical Sciences	6
English	6
Fundamental Mathematics	3
The Humanities	9
Biological Sciences	6

One semester of Biological Science or of Physical Science may either be omitted or taken as an elective. Students may not use AGG 2501, ANT 3511, ECH 3783, FOR 2010, FOS 2001, HUN 2201, SOS 3215 to meet the biological science requirement. Acceptable courses to meet the English requirement are limited to ENC 1101, ENC 1102, ENC 3213, ENC 3310, ENC

3312, ENC 4260, CRW 2100, CRW 2300, CRW 3110, CRW 3311, ENG 2131, ENG 2935, LIN 3370, LIN 4100, LIT 2931.

Science education majors should take CHM instead of PSC and ZOO and BOT instead of APB. They should also take MAC courses instead of MGF.

Because of the nature of their program, music education majors will take their general education requirements over a four year period rather than only during the first two years.

Preprofessional Requirements

A. Teaching field requirements

These teaching fields are listed in the College of Education section of the Catalog together with course requirements for each field. Some of these courses can and should be taken while in the lower division.

B. Other Requirements

1. At least 64 credits are required for admission to upper division. The College of Education will accept those students who present the best records and show the most promise of success in a teacher education program. See the College of Education section of the catalog for further information relating to admission to upper division.

C. Other considerations

1. Speech requirement may be completed in the Sophomore year or delayed until the Junior year. This requirement is met by successful completion of SPC 2300 or 3601 or by successfully passing the speech screening test administered by the Speech Department. English and Language Arts majors may meet this requirement only by successful completion of SPC 2300 or 3601. Information about the speech screening test is available in Room 134, Norman Hall.

2. Psychological Foundations Course. (Students must have completed 53 credits)

a. EDF 3135 or EDF 4210 for Secondary Education

b. EDF 3110 for Special Teaching Fields (K-12 Programs)

3. Students who choose to work toward a teacher education degree in a college other than the College of Education should consult that college's portion of the catalog for admission and graduation requirements.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
*Social and Behavior Sciences	9
**Physical Sciences	3-6
***English	6
Electives	12
	30-33

SOPHOMORE YEAR

	Credits
****The Humanities	9
**Biological Sciences	3-6
Mathematics	3
Electives	15
	30-33

*Six of the nine semester hours of Social and Behavioral Sciences must be from the areas of History, Anthropology, Sociology, Political Science, Economics and Geography.

**One semester of Biological Sciences or Physical Sciences may either be omitted or taken as an elective.

***See statement under General Education Requirements for acceptable English courses.

****Students may not use History courses to meet the Humantities requirement.

ENGINEERING

Essential Preparation: Modern engineering education demands much in the way of specific high school preparation not required in other college programs. The beginning engineering student should have a good understanding of the basic physical sciences, a highly developed ability in mathematics, and the competence to read rapidly and with comprehension. The College of Engineering considers that a minimum adequate preparation follows:

In high school, the student should include the following subjects:

Essentials	*Year*
Elementary algebra	1
Intermediate and advanced algebra	1
Plane geometry	1
Trigonometry	½
Chemistry	1
Physics	1
Desirable	
Additional Mathematics	½

Deficiencies in the above subjects may be overcome by registering in certain foundation courses before proceeding with parts of the regular engineering program.

ADMISSION REQUIREMENTS

A student may request transfer to the College of Engineering at any time after completing 30 credits; however, most departments will require completion of most of the Calculus and Physics (with Calculus) before admission.

Because of the limitations on space, facilities and number of faculty the College of Engineering has had to become a selective admission college. The two major criteria for admission are grade point average and completion of prerequisite courses. All applicants are referred to the departments for selection, with g.p.a. being most important. In future terms the minimum g.p.a. will vary with number of applicants, availability of space, and numbers of faculty in a given program.

Specific requirements for admisson to each department are given in the College of Engineering section of the catalog.

FRESHMAN AND SOPHOMORE REQUIREMENTS

The program below is described for students whose high school preparation meets the criteria shown above.

The minimum course load for full-time students is 12 credit hours each semester, but most students take 14 to 16 credit hours. At this rate, it takes at least 4-½ years, including a summer term, to earn a B.S. degree. It will take somewhat longer for students who need preparation courses before entering the program below.

In planning the physical science and mathematics portion of the academic program, a freshman should talk with a College of Engineering faculty adviser.

The requirements in Social Sciences, English, Humanities, and (in most departments) Biological Sciences can be met only by (a) appropriate College Level Examination Program (CLEP) credits or (b) courses selected from the listing in the *Authorized Courses for General Education* section of this catalog. In a few cases as noted below, the College of Engineering requires specific courses in fulfilling the General Education requirements for these subject areas.

Courses	Credits
Social Sciences	6
English Composition	3
English Elective	3
Biological Sciences (see note 1 below)	3
Humanities (see note 2)	9
CHM 2042, 2042L, 2043C, General Chemistry (see note 3)	8
MAC 3311, 3312, 3313, Analytic Geometry & Calculus	12
MAP 3302, Elementary Differential Equations OR EGM 3311, Intro. to Engineering Analysis (see note 4)	3
PHY 2048, 2048L, 2049, 2049L, General Physics with Calculus	8
COP 3212, Computer Programming for Engineers (see note 5)	2
EGN 1111, Engineering Graphics (see note 6)	2
ECH 3012, Elements of Chemical Engineering (see note 7)	3

ECH 3023, Intro. to Chemical Engineering (see note 7)	3
Unspecified Electives (see note 8)	
	55-63*

*Total hours required varies depending on department.

Note 1: Environmental Engineering Sciences requires BSC 2010 to meet this requirement.

Note 2: Part or all of the humanities requirement may be deferred to the junior and senior years. Courses relating humanities to engineering and the sciences, as listed in Category III of the humanities subsection of the General Education section, are especially recommended.

Note 3: All students are required to take the Chemistry Placement Examination, given each term by the Chemistry Department, prior to initial registration in CHM 2040 or CHM 2042. Students who achieve an acceptably high score on the Examination may proceed with the chemistry course sequence above, or with the sequence CHM 2040, 2041 and 2042L concurrently, and 2043C. Students achieving a lower score must take the latter course sequence.

Note 4: Aerospace Engineering and Engineering Sciences students must take EGM 3311.

Note 5: Not required for students in Computer and Information Sciences. Chemical Engineering requires CAP 3210 (3 credit hours) instead of COP 3212. Industrial and Systems Engineering students also take COP 3212L if available.

Note 6: Not required for students entering Chemical, Electrical, Environmental, and Nuclear Engineering programs.

Note 7: ECH 3012 and ECH 3023 required only in Chemical Engineering program.

Note 8: Students should consult a faculty adviser in the department they intend to enter when selecting these electives.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
English	6
Social Sciences	6
MAC 3311, 3312	8
Chemistry	8

SOPHOMORE YEAR

Humanities	9
MAC 3313, MAP 3302 (or EGM 3311)	7
PHY 2048, 2048L, 2049, 2049L	8
Biological Science	3
Other Courses (see engineering adviser)	

Detailed information about departmental requirements is found in the section on Engineering in this catalog.

FINE ARTS

Students planning to enter the College of Fine Arts should take one of the following programs of study. They should consult the departmental major adviser for specific information regarding grade point averages, minimum grades required in certain courses and other information relating to the curriculum. Advisers are listed in the catalog under the section titled "College of Fine Arts."

To be eligible for admission to the College of Fine Arts, the student is required to have at least a 2.0 (C) average in the courses listed in the appropriate curriculum for the first two years. In addition the student must earn a 2.0 (C) average in all preprofessional work included in the first two years of the program. On occasion, departments will recommend that certain students be admitted to the College prior to the completion of all freshman and sophomore requirements. Students should consult departmental academic advisers regarding the appropriate time to initiate a change of college request. Please refer to additional information in the section of this catalog titled "College of Fine Arts," under the heading "Requirements for Admission." In addition to other criteria, all students are admitted on a space available basis.

For upper division programs, see the College of Fine Arts section of the catalog.

A. FOR THE DEGREES IN ART (GRAPHIC DESIGN, ART EDUCATION, CRAFTS, STUDIO AREAS, HISTORY OF ART)

General Education Requirements

	Credits
English	6
Fundamental Mathematics	3
Behavioral Studies	3
Social Sciences	6
The Humanities	9
Physical Sciences	6/3
Biological Sciences	3/6
	36

Preprofessional Requirements

	Credits
ART 1201C, 1203C Beginning Design 1 and 2	6
ART 1300C, 1301C Beginning Drawing 1 and 2	6
ARH 2050, 2051 Intro. to History of Art 1, 2	8
Electives	9
	29

Total 65

NOTE: Students intending to major in art education are urged to become familiar with the requirements as listed under the College of Education dealing with admission to the advanced Professional Sequence.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
English	3
Social Sciences	3
Biology or Physical Science	3
ART 1201 Beginning Design 1	3
ART 1300 Beginning Drawing 1	3
	15
English	3
Social Sciences	3
Humanities	3
Biology or Physical Science	3
ART 1203 Beginning Design 2	3
ART 1301 Beginning Drawing 2	3
	18

SOPHOMORE YEAR

	Credits
Humanities	3
Biology or Physical Science	3
Mathematics	3
ARH 2050 Intro. to History of Art I	4
Elective	3
	16
Humanities	3
Behavioral Studies	3
ARH 2051 Intro. to History of Art 2	4
Elective	6
	16

Total 65

B. FOR ALL MUSIC MAJORS PROGRAMS IN THE COLLEGE OF FINE ARTS: BACHELOR OF MUSIC AND BACHELOR OF MUSIC EDUCATION DEGREES:

NOTE: Music majors must be admitted to the music major program by the Department of Music. Prospective majors should see the Department of Music Chairman as early as possible in their college careers.

COLLEGE OF LIBERAL ARTS AND SCIENCES

General Education Requirements

	Credits
Social Sciences	6
English	6
Behavioral Studies	3
The Humanities	9
Fundamental Mathematics	3
Physical Sciences	3/6
Biological Sciences	6/3
	36

Music majors are allowed to complete the general education requirements over four years.

Preprofessional Requirements

FRESHMAN YEAR

Music Performance Area
Applied Music: Principal
Instrument or Voice 6
Ensemble: Band, Chorus or Orchestra 2
MUE 2431 Voice Skills 1
(Voice Majors and Voice Principals take MUS 4201 Language and Diction)
*MVK 1011 Preparatory Piano Skills 2
Music theory Sequence
MUT 1121, 1122 8

*Students who do not meet minimum proficiency in piano skills will be required to take MVK 1011 Preparatory Piano Skills.

SOPHOMORE YEAR

Music Performance Area
Applied Music: Principal
Instrument or voice 6
Ensemble: Band, Chorus, or Orchestra 2
MVK 2111, 2111, (A), (B), Piano Skills 4
Music Theory Sequence
MUT 2116, 2117, 2246, 2247 8
*MUC 2101, 2102 Composition Skills 2

*Required for Theory/Composition Majors

NOTE: The Bachelor of Arts degree in music is offered through the College of Liberal Arts and Sciences with the cooperation of the Department of Music. See the College of Liberal Arts and Sciences section of the catalog for that degree.

Suggested Course Sequence

FRESHMAN YEAR

Fall Semester (1)	Credits
MUT 1121 Theory of Music (1)	4
MUE 2431 Voice Skills	1
(Voice majors and voice principals take MUS 4201 Language and Diction for singers)	
Applied Music Principal	3
Band, Orchestra or Chorus	1
English	3
Social Sciences	3
	15

Spring Semester (2)	Credits
MUT 1122 Theory of Music (2)	4
*MVK 1011 Preparatory Piano Skills	2
Applied Music Principal	3
Band, Orchestra or Chorus	1
English	3
Social Sciences	3
Humanities	3
	17-19

*Students who do not meet minimum proficiency in piano skills will be required to take MVK 1011 Preparatory Piano Skills.

SOPHOMORE YEAR

Fall Semester (3)	Credits
MUT 2116 Theory of Music (3)	3
MUT 2246 Theory of Music Lab (3)	1
MVK 2111 Piano Skills (A)	2
*MUC 2101 Composition Skills	1
Applied Music Principal	3
Band, Orchestra or Chorus	1
Humanities	3
Behavioral Studies	3
	16-17

Spring Semester (4)	Credits
MUT 2117 Theory of Music (4)	3
MUT 2247 Theory of Music Lab (4)	1
MVK 2111 Piano Skills (B)	2
*MUC 2102 Composition Skills	1
Applied Music Principal	3
Band, Orchestra or Chorus	1
Humanities	3
Mathematics	3
	17

Total 66

*Required for Theory/Composition Majors

C. FOR THE DEGREE IN THEATRE
General Education Requirements

	Credits
English	6
Fundamental Mathematics	3
Behavioral Studies	3
Social Sciences	6
The Humanities	6
Physical Sciences	6/3
Biological Sciences	3/6
	33

Preprofessional Requirements

	Credits
*THE 2000 Theatre Appreciation	3
ORI 2001 Oral Interpretation 1	3
TPP 2700 Voice and Articulation	3
TPP 3S10 Musical Theatre & Movement I	3
TPP 3110 Acting 1	3
TPA 3250 Stage Makeup	3
Electives	8
	26

Total 59

*Satisfies Humanities requirement. Hours counted in General Education above.

Suggested Course Sequence

FRESHMAN YEAR

Fall Semester	Credits
Social Sciences	3
English	3
Physical or Biological Sciences	3
*THE 2000 Theatre Appreciation	3
Electives	3
	15

Spring Semester	
Social Sciences	3
English	3
Physical or Biological Sciences	3
ORI 2001 Oral Interp. I	3
TPA 3250 Stage Makeup	3
	15

SOPHOMORE YEAR

Fall Semester	Credits
Humanities	3
Biological or Physical Sciences	3
Behavioral Studies	3
TPP 2700 Voice and Articulation	3
TPP 3510 Musical Theatre & Movement I	3
	15

Spring Semester

Humanities	3
Mathematics	3
TPP 3110 Acting I	3
Electives	5
	14

Total 59

*Satisfies Humanities Requirement.

FOREST RESOURCES AND CONSERVATION

Students desiring to prepare for professional careers in Forestry, Wildlife Ecology and Resource Conservation should select the appropriate preprofessional program listed below. In addition, they should contact the School of Forest Resources and Conservation if advisement is needed.

To be eligible for direct admission applicants must have completed courses as shown below (61-66 semester credit hours), have a minimum overall grade point average (GPA) of 2.3, and have a minimum GPA of 2.0 in all preprofessional courses in biological and physical sciences, mathematics, economics, and statistics.

Fall semester entrance into the School of Forest Resources and Conservation is *strongly* advised, as Spring or Summer entrance may result in an additional semester in residence, due to the sequencing of courses.

PREPROFESSIONAL PROGRAM IN FOREST RESOURCES AND CONSERVATION

General Education Requirements

	Credits
English	6
*MAC 3311-3312 Analytic Geometry and Calculus 1, 2	8
Social Sciences	6
Humanities	9
Behavioral Studies	3
CHM 2040, 2041, 2042L General Chemistry	7
Biological Sciences Elect either:	
(a) BSC 2010C, BOT 2011C (Forestry)	
or	
(b) BSC 2010C, 2011C (Wildlife and Resource Conservation)	8

Preprofessional Requirements

	Credits
**CHM 2043C Chemistry and Qualitative Analysis	4
ECO 2013 Basic Economics I	3
***ECO 2023 Basic Economics II (Forestry majors only)	(3)
***PHY 2004, 2005 Applied Physics	6
STA 3023 Introduction to Statistics	3
	Total 61-66

*MAC 3223-3224 Survey of Calculus 1, 2 (6 credits) may be substituted for MAC 3311-3312. Students should note MAC 3223-3324 is a terminal calculus sequence. Students with inadequate backgrounds in mathematics will have to complete MAC 1132 — Algebra and Trigonometry (4 credits) or equivalent.

**BCH 3023 Elementary Organic & Biological Chemistry (4 credits) may be substituted for CHM 2043C. Students should note this is a terminal chemistry course.

***AEB 3103 Principles of Food and Resource Econ. (4 credits) may be substituted for ECO 2023.

****Students enrolled in a junior or community college may substitute two semesters of General Physics.

HEALTH RELATED PROFESSIONS

Students classified UF who are planning to apply for Upper Division status in the College of Health Related Professions are urged to study the section ot the catalog dealing with the College and its programs in Clinical and Community Dietetics, Medical Technology, Occupational Therapy, and Physical Therapy. Special attention should be given those paragraphs on admission policies.

Limitations in available staff, faculty and facilities make it necessary that the College reluctantly establish quotas for the admission of students.

Each department has its own application procedures. Preprofessional students should contact the department of their proposed major (objective) as early as possible (Clinical and Community Dietetics, Room N1-8 in the Medical Sciences Building, Medical Technology, Room 4111 in Jennings Annex; Occupational Therapy, Room DG-83 in the Dental Science Building; and Physical Therapy, Room A-92 in the Shands Teaching Hospital). The sequences of professional courses in all programs begins only in the Fall semester of the Junior year. The deadline for receipt of completed applications for August enrollment is the preceding February 15.

Students who plan to earn a baccalaureate degree in the College of Health Related Programs elect one of the following programs:

A. FOR THE DEGREE IN CLINICAL AND COMMUNITY DIETETICS

General Education Requirements

	Credits
English	6
MAC 1132 Algebra and Trigonometry	4
Social Sciences	3
Humanities	9
CHM 2040 General Chemistry	3
ECO 2013 Basic Economics	3

Preprofessional Requirements

	Credits
BSC 2010 - 2011 Integrated Principles of Biology	8
CHM 2041 - 2042L - 2043C General Chemistry	8
HUN 2201 Fundamentals of Nutrition	3
PSY 2013 General Psychology	3
HSC 1001 Intro to Health Related Professions	2
CHM 3200 Organic Chemistry	3
CHM 3200L Organic Chemistry Laboratory	1
STA 3023 Introduction to Statistics	3
Electives	5

Suggested Course Sequence

FRESHMAN YEAR

	Credits
CHM 2040 General Chemistry	3
Social Sciences	3
BSC 2010 Integrated Principles of Biology	4
MAC 1132 Algebra and Trigonometry	4
Electives	2
CHM 2041 General Chemistry	3
CHM 2042L General Chemistry	1
Social Sciences	3
BSC 2011 Integrated Principles of Biology	4
HUN 2201 Fundamentals of Human Nutrition	3
Electives	2

SOPHOMORE YEAR

	Credits
CHM 2043C General Chemistry	4
Humanities	6
English	3
PSY 2013 General Psychology	3
CHM 3200 Organic Chemistry	3
CHM 3200L Organic Chemistry Laboratory	1
Humanities	3
English	3
HSC 1001 Introduction to Health Related Professions	2
STA 3023 Introduction to Statistics	3
Electives	1

B. FOR THE DEGREE IN MEDICAL TECHNOLOGY
General Education Requirements

	Credits
English	6
MAC 1132 Algebra and Trigonometry	4
Behavioral Studies	3
Social Sciences	6
The Humanities	9
CHM 2042, 2042L General Chemistry	4
STA 3023 Introduction to Statistics	3
BSC 2010C, 2011C Biological Science Integrated Sequence	8
PEM 1100 Physical Education	2

Preprofessional Requirements

	Credits
CHM 2043C General Chemistry	4
CHM 3200, 3200L Organic Chemistry	4
CHM 3120, 3120L Analytical Chemistry	4
HSC 1001 Introduction to Health Related Professions	2
MLS 2030 Introduction to Medical Technology	1
Electives	6

Suggested Course Sequence

FRESHMAN YEAR

Fall Semester	Credits
Social Sciences	3
English	3
*CHM 2042, 2042L General Chemistry	4
**MAC 1132 Algebra and Trigonometry	4
HSC 1001 Introduction to the Health Related Professions	2

Spring Semester	Credits
Social Sciences	3
English	3
CHM 2043C General Chemistry	4
MLS 2030 Introduction to Medical Technology	1
Electives	4

*CHM 2040, 2041 and 2042L may be substituted.
**Students who qualify should take an advanced mathematics course instead of MAC 1132. Consult UF Advisor.

SOPHOMORE YEAR

Fall Semester	Credits
CHM 3200 Organic Chemistry	3
CHM 3200L Organic Chemistry Laboratory	1
The Humanities	3
BSC 2010C Biological Sciences—Integrated Sequence	4
Behavioral Studies	3
PEM 1100 Physical Education	2

Spring Semester	Credits
The Humanities	6
BSC 2011C Biological Sciences—Integrated Sequence	4
STA 3023 Introduction to Statistics	3
CHM 3120 Analytical Chemistry	3
CHM 3120L Analytical Chemistry Laboratory	1

C. FOR THE DEGREE IN OCCUPATIONAL THERAPY
General Education Requirements

	Credits
English	6
Fundamental Mathematics	3
Behavioral Studies	3
Social Sciences	6
Humanities	9
PEM 1100 Physical Education	2
Physical Sciences	6
OTH 2000 Foundations in Occupational Therapy	2
Electives	11

Preprofessional Requirements

*APB 2150 Biological Sciences 1	3
*APB 2151 Biological Sciences 2	3
*APB 2152L Laboratory in Biological Sciences	1
*PSY 2013 General Psychology	3
*PPE 3004 Psychology of Personality	4

*These courses will also meet general education requirements.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
APB 2150 Biological Sciences 1	3
APB 2151 Biological Sciences 2	3
APB 2152L Laboratory in Biological Sciences	1
PSY 2013 General Psychology	3
Mathematics	3
English	6
HSC 1001 Introduction to Health Related Professions	2
PEM 1100 Physical Education	2
Electives	9
	32

SOPHOMORE YEAR

	Credits
PPE 3004 Psychology of Personality	4
OTH 2000 Foundations in Occupational Therapy	2
Humanities	9
Social Science	6
Physical Science	6
Electives	5
	32

Summer Session
Students may complete prerequisites for admission to the program and those accepted for the Occupational Therapy Program may elect available courses in the Department of Occupational Therapy.

D. FOR THE DEGREE IN PHYSICAL THERAPY
General Education Requirements

	Credits
English	6
Behavioral Studies	3
Social Sciences	6
Humanities	9
Electives	10

Preprofessional Requirements

	Credits
*CHM 2040, 2041, 2042L, 2043C OR *CHM 2042, 2042L, 2043, General Chemistry	8-11
*MAC 1132 Algebra and Trigonometry	4
PSY 2013 General Psychology	3
*BSC 2010C Integrated Principles of Biology I	4
*ZOO 3703C Functional Vertebrate Anatomy OR	
*BSC 2011C Integrated Principles of Biology II	4
*PHY 2004 Applied Physics 1	3
*PHY 2005 Applied Physics 2	3
*PHY 2004L Laboratory for PHY 2005	1
**CLP 4144 Abnormal Psychology OR PPE 3004 Psychology of Personality	3

*These courses will also meet general education requirements.
**CLP 4144 may be taken with permission of instructor only.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
English	3
Social Science	3
CHM 2040	3
MAC 1132	4
Electives	3
	Total 16

English	3
Social Science	3
CHM 2041	3

CHM 2042L	1
PSY 2013	3
Electives	4
Total	17

SOPHOMORE YEAR

	Credits
Humanities	3
Behavioral Studies	3
CHM 2043C	4
BSC 2010C	4
PHY 2004	3
Total	17

Humanities	6
ZOO 3703 or BSC 2011C	4
PHY 2005	3
PHY 2004L	1
CLP 4144 or PPE 3004	3
Total	17

JOURNALISM AND COMMUNICATIONS

Listed below are general requirements for all students seeking a degree from the College of Journalism and Communications. It is expected that students will complete, in their first two years at the university, nearly all of the General Education Requirements and a considerable part of the Basic Distribution and Pre-Professional Requirements. The remainder will be completed as early as possible upon admission to the College of Journalism and Communications. A suggested course sequence is provided for the first two years. This can be altered to fit the student's circumstance but students are urged not to delay their foreign language or quantitative option.

A student must complete the General Education requirements and have a 2.5 average (C+) to be considered for admission to the College.

For course options other than those listed, consult "Authorized Courses for General Education."

General Education Requirements

	Minimum Credits
*English ENC 1419 — Expository & Arg. Writing ENC 1170 — Writing About Literature (See list of English options)	6
Mathematics (See list of Mathematics options)	3
Social Sciences SSI 2110 —American Institutions I SSI 2120 — American Institutions II	6
Behavioral Studies (See list of BES options. Also PSY 2013, SOC 2000, or ANT).	3
Humanities (See list of Humanities options)	9
***Physical Sciences (See list of Physical Science options)	3-6
***Biological Sciences (See list of Biological Sciences Options) Physical Sciences and Biological Sciences options may be used; however, a total of 9 semester hours must be earned with a minimum of 3 in each area.)	3-6
Total	36

*Only grades of C or higher are acceptable. Two English composition courses must be included.

Basic Distribution Requirements

*English	3
Social Sciences ECO 2000, 2013, or 2023	3
AMH 2010, 2020	6
POS 2041, 2112	6

*Only grades of C or higher are acceptable. Two English composition courses must be included.

Preprofessional Requirements

These courses should be taken as soon as possible, preferably before admission to the College of Journalism and Communications. They are required for graduation.

1. MMC 2100. Writing for Mass Communication. Grade of C or higher must be earned; prerequisite for course is a typing proficiency of at least 20 words per minute; student may be exempted from and earn credit for course by passing a proficiency exam in writing at UF 3

2. SPC 3601, Public Speaking Grade of C or higher must be earned; speaking performance courses that may be substituted. ORI 2001, ORI 2002, TPP 2700 4

3. One Foreign Language 10

or

Quantitative Option

Take any combination of the following courses; ACC 2001, 2301, 2401 STA 3013, 3023, STA 3024, 4222 COP 3110, 3111, 3120 6-7

For students who elect the foreign language option, the requirement may be met by satisfactory completion of a beginning course sequence in one foreign language (10 semester hours.) Students who plan to continue the study of a language which they began at another institution must take a placement test before registering. If the minimum proficiency called for above is demonstrated by examination, this will constitute satisfaction of the foreign language requirement. Consult the appropriate language departmental office for specific examination schedules. Transfer students having fewer than 10 semester hours of one foreign language may complete the requirement beginning at the point determined by a proficiency test. The student is advised to take the language proficiency examination as early as possible after admission lest a basic course have to be repeated with the result that the student loses credit for prior coursework. If the student wishes to pursue study of a different language than that for which credit was previously earned, the earlier credit will stand. Intensive summer study in French and Spanish is available for students who have earned no previous foreign language credit in college.

4. Professional courses — see appropriate sequence

Total Hours Required for Graduation 128

FRESHMAN YEAR

First Semester	Credits
English	3
Social Science	3
Physical Science	3
Mathematics	3
Behavioral Studies	3
Total	15

Second Semester	
English	3
Social Science	3
Physical or Biological Science	3
Public Speaking	4
Humanities	3
Total	16

Yearly Total 31

SOPHOMORE YEAR

First Semester	Credits
Humanities	3
Biological Science	3
Foreign Language or Quantitative Option	3-5
MMC 2100 Writing for Mass Communication	3
U.S. History I	3
Total	15-17

Second Semester

Humanities	3
Foreign Language or Quantitative Option	3-5
U.S. History II	3
American Government or Economics	3
Journalism Elective	3
Total	15-17

Yearly Total 30-34

LAW

The College of Law offers a program leading to the degree of Juris Doctor. Admission is limited to those with a bachelor's degree from an accredited college or university who have satisfactory undergraduate records and have attained a satisfactory score on the Law School Admissions Test. Also offered is a one-year program leading to the degree of Master of Laws in Taxation. This program is open to those students who hold the J.D. degree and who show significant potential for success in the LL.M. program. For detailed information on admission requirements, course and programs, see the College of Law catalog.

PRELAW PROGRAMS

Admission to law school is a highly selective process. Approximately 50% of each entering class is chosen solely by reference to a combination of the Law School Admission Test (LSAT) score and the cumulative undergraduate grade point average (UGPA) leading to the first bachelor's degree. In the absence of disciplinary problems, applicants with quantitatively superior records will be automatically admitted. Approximately 40% of each class is selected from the "hold" category which is composed of applicants with less than superior quantitative credentials. In addition to the quantitative credentials mentioned above, the Admissions Committee takes into consideration the following factors: Ascending or descending flow of effort reflected in the undergraduate academic performance; the colleges where, and the disciplines in which, the applicant's degree was earned; academic accomplishment subsequent to the earning of the first bachelor's degree; leadership and other relevant activities; letters of evaluation from undergraduate professors and/or employers; work and maturing experiences; and the applicant's racial, ethnic, cultural and economic background, and geographic origin (both inside and outside Florida).

The class entering the University of Florida Law School in September 1981, had a mean UGPA and LSAT score of 3.40 and 646, respectively. In the absence of documentation that a candidate was ill, or that some other unusual condition occurred at one of the testings, multiple LSAT scores are averaged. The LSAT should be taken at the end of the junior year. Application to the Law School Data Assembly Service (LSDAS) should be submitted approximately one year before the anticipated matriculation date for law school. LSDAS applications are available in the Office of Preprofessional Education (OPE). More information concerning preparation for and application to law schools is contained in the Prelaw Guide available in the OPE.

While any undergraduate specialization will prepare a student for law school, the beginning law student must possess the fundamental skills necessary for effective oral and written communication. The student who lacks writing skills should study advanced English composition. Any course that tests one's ability to organize a body of data and reason from it will be beneficial. Also suggested are courses in constitutional law, English and American history, economics, political processes, and sociology. A course in basic accounting principles is recommended.

Prelaw students should consult the current PreLaw Handbook prepared by the Law School Admission Council and the Association of American Law Schools which is available in most bookstores. A one credit course, IDS 1120, Introduction to the Legal Profession, is available under the S-U option.

Freshmen and transfer students planning careers in law should register with the Office of Preprofessional Education, 353 Little Hall during their first term on campus. In addition to serving as a central source of information on all matters relating to prelaw advisement, the Office of Preprofessional Education acts as a clearing-house for information, catalogues, and LSAT Bulletins relating to prelaw preparation and application procedures. The Office refers students to academic advisers, and serves as a central office for collecting and forwarding letters of evaluation for those applicants placed in the "hold" category. In addition the Office of Preprofessional Education coordinates the activities of the prelaw advisers located in the various departments and colleges listed below, and provides them with current data and information needed for effective advisement.

Advisers for prelaw students are available in the College of Business Administration, and in the Department of Economics, English, History, Philosophy, Political Science, and Sociology within the College of Liberal Arts and Sciences.

MEDICINE, DENTISTRY AND OPTOMETRY

The University of Florida, rather than having a separate, organized premedical, predental or preoptometry degree program, allows a preprofessional student to major in a program offered by any department or college within the University. Dental, medical and optometry schools expect applicants to have received a liberal education and to have performed at a high level of academic accomplishment, including work in the required science core courses listed below. Selection for admission to these professional schools is usually based primarily on overall grade point average, (GPA), science GPA, admission test scores, letters of evaluation of the applicant from faculty familiar with the applicant's qualifications in comparision with other preprofessional students, and interviews conducted by the professional schools' selection committees. Students from the University of Florida admitted to dental schools in 1980 averaged 3.3 in overall and science GPA, with scores of 5 or more in the academic and perceptual parts of the Dental Admissions Test (DAT). University of Florida graduates who were admitted to medical schools in 1980 averaged 3.55 in overall and science GPA, with an average score of 9.5 on each part of the New Medical College Admission Test (MCAT). The average GPA for students accepted into regional schools of optometry was 3.0 in 1980.

Freshman students planning careers in medicine, dentistry and optometry should register with the Office of Preprofessional Education, 353 Little Hall, during their first term at the University, and normally should apply for admission to the College of Liberal Arts and Sciences at the end of their first term of residence. Admission may occur at a later time, but the student may lose valuable curricula flexibility associated with the programs described below if the transfer is greatly delayed. Students transferring from other colleges and universities should also register with this office during the first term of residence. In order to inform themselves fully of requirements, procedures and other factors relating to preprofessional preparation, students should obtain a current copy of the PREPROFESSIONAL GUIDE prepared by and available through the Office of Preprofessional Education.

A one-credit course HSC 1005, Introduction to Medicine and Dentistry, is available under the S-U option.

In addition to serving as a central source of information on all matters pertaining to the preprofessional curricula, the Office of Preprofessional Education acts as a clearinghouse for information, catalogues and application forms relating to medical, dental and optometry school requirements and admission procedures. The Office refers students to preprofessional academic advisers and serves as a central office for collecting and forwarding letters of evaluation and certification to the schools selected by the students. A description of services for students provided by the Office of Preprofessional Education can be found in the PREPROFESSIONAL GUIDE.

The Office of Preprofessional Education coordinates the activities of the preprofessional advisers located in various departments and provides them with current data and procedures needed for effective advisement. Following initial contact with this office, the student will be referred to an adviser who will help plan a program and upper-division major best suited to the student's aims and abilities. The adviser should remain aware of the student's progress, and inform the Office of Preprofessional Education of academic difficulties and particularly of academic excellence. In the latter case, the adviser may recommend a student for the Junior Honors Medical Program described below and/or for a departmental honors program.

PREMEDICAL, PREDENTAL, PREOPTOMETRY CURRICULAR OPTIONS

The preprofessional student must satisfy the following core requirements (usually prior to application to professional schools):

Required Core Courses:

1) A complete general chemistry sequence (terminating with CHM 2043C, CHM 2053C, or CHM 20S2C.
2) A complete organic chemistry sequence terminating with CHM 3211L, and CHM 3211, or CHM 3216 and CHM 3216L.
3) At least 8 credits in biology (usually BSC 2010C and BSC 2011C) with laboratory.
4) A complete physics sequence (terminating with PHY 2054 and PHY 2054L or PHY 2049 and PHY 2049L or PHY 2067C).
5) Two semesters of mathematics including at least one term of analytic geometry and calculus (MAC 3311 and MAC 3312.)
6) One year of college-level English

These courses will also meet the basic requirements for schools of Chiropractic, Osteopathic, and Podiatric medicine.

In Addition: Premedical students should also take the following courses which are required by either tthe University of South Florida or the University of Miami College of Medicine.

Statistics: STA 3023
Genetics: PCB 3063, PCB 3653C, or AGR 3303
Advanced Chemistry: preferably BCH 4313 or BCH 4203, or CHM 3120 and CHM 3120L, or CHM 3400.

A list of suggested elective courses for preprofessional students is available in the Office of Preprofessional Education. The list includes courses in Biochemistry, Microbiology and Zoology which should be taken in addition to the required courses.

The usual timetable for application to professional school is:

1) Complete the preprofessional core requirements within the first three years of college, preferably by the summer of the year preceding the year of graduation.

2) Apply for and take the admission test (DAT, MCAT, or OCAT), preferably in the spring of the year preceding the year of graduation. Delay in taking the test until the fall may reduce chances of admission.

3) Have letters of evaluation collected in a confidential file by the Office of Preprofessional Education (see procedure described in services to Preprofessional Students in the PRE-PROFESSIONAL GUIDE available at the Office of Preprofessional Education) during the third year of college.

4) Submit completed applications (including admission test scores and letters of evaluation) to the professional schools by the end of August or the first part of September (at the latest) of the year preceding the year of graduation. Delay in completion of applications beyond that date may reduce chances of admission.

5) Maintain a high academic performance and send transcripts of subsequent terms to professional schools at which your application is being considered.

6) Interviews for applicants being seriously considered are conducted in the fall and winter by professional schools.

7) Notices of acceptance or rejection are usually received by the spring of the following year although some acceptances may be offered as late as the week before classes start.

Besides meeting the preprofessional course requirements, students are strongly recommended to gain some experience in the health care delivery environment of their career choice. Such experience may be obtained by participation in the programs of the Preprofessional Honor Society — Alpha Epsilon Delta, The Minority Preprofessional Association — MPA, and the Preprofessional Service Organization — PSO at the University of Florida. More details about these programs and applications are available at the Office of Preprofessional Education.

STANDARD PROGRAM FOR YEAR 1

Many students reach a decision to prepare for a career in medicine or dentistry during or after one year of college. Such students will usually have to complete requirements at a more accelerated rate if they wish to graduate on schedule. The degree of acceleration should be discussed with a preprofessional adviser in their major department.

Any sequence of general chemistry is acceptable. The basis for choice among CHM 2040, 2042C, 20S1C (Honors) is outlined in the catalog section preceding chemistry course listings and in the Preprofessional Guide. MAC 3311, 3312, and STA 3023 should be completed this year. Social Science and English requirements should be completed by taking the appropriate courses or via College Level Examination Program (CLEP) credit. Liberal arts elective courses including English courses, and a foreign language, are among options for students who have completed Social Sciences and English by CLEP credit. Those having a background in foreign language prior to entering the University may satisfy all or part of the foreign language requirement by taking a placement examination, which is offered several times during the year by the foreign language departments.

STANDARD PROGRAM FOR YEAR 2

If a student has not finished general chemistry, it should be completed in this year. Organic chemistry should be begun and completed this year. CHM 3200 is not acceptable. Qualified students are advised to consider application to the honors organic chemistry sequence, CHM 3215 and 3216. Two terms of biology, usually BSC 2010C-2011C should be completed by the end of this year. Students should also complete the humanities requirements by coursework unless they have previous CLEP credit. Students with available time might consider beginning either physics or foreign language sequence during this year. Those who have a background in a foreign language prior to entering the University of Florida should refer to the previous section on "The Foreign Language Requirement."

Second year premedical students who have a 3.5 average or higher and who have completed the above core requirements may want to apply for admission to the Junior Honors Medical Program. This program allows early acceptance to the University of Florida College of Medicine and participation in third-year medical school seminars. Interested students should contact the Assistant Dean for Preprofessional Education in the College of Medicine (118 Medical Sciences Building). Applications for this program are accepted early in the Spring Semester, and final selection is made during the Summer Semester of the sophomore year.

STANDARD PROGRAM FOR YEARS 3 AND 4

During their third year, students generally complete physics and any preprofessional core requirements as yet unfilled. During year 3 or 4 the foreign language requirement must be completed if not completed prior to this time.

The remainder of years 3 and 4 is devoted to completion of a departmental major and elective courses in science and other areas. Professional schools attach no bias toward any particular major. Thus, although most students major in one of the sciences, it is equally possible and desirable to major in some other area. In general, the better the student's record during the first two years, the greater the latitude that student will have in a choice of major. Since most students do major in one of the sciences, the various common preprofessional science options are outlined below.

1) Chemistry Major: Analytical chemistry I CHM 3120-CHM 3120L is required. A student must take analytical chemistry II CHM 4131, CHM 4131L, inorganic chemistry

CHM 3610 and the physical chemistry sequence CHM 4410-4411L (MAP 3302 is a co-requisite). Students interested in a research experience should consider taking CHM 4905 in their last year.

2) Microbiology and Cell Science Major: Students interested in a microbiology major should schedule MCB 3020C after at least one term of organic chemistry. In addition to MCB 3020C, the following courses constitute the remainder of the major program: PCB 3136, BCH 4313, and 14 credits selected from departmental courses offered in the 4000 series. In some cases which are determined by the microbiology undergraduate coordinator, BCH 4203 may be substituted for MCB 4413. Students interested in undergraduate research projects as well as departmental honors should discuss MCB 4905 with the undergraduate coordinator. In addition, analytical chemistry, CHM 3120-CHM 3120L, is a required background course for this major.

3) Zoology Major: A preprofessional zoology major must take PCB 3063 or PBC 3653C and at least one course from each of the following four sets:

a. ZOO 3303C or ZOO 3203C
b. ZOO 3703C or ZOO 3605C
c. PCB 4044C or PCB 4675
d. ZOO 4755C or PCB 4745C

(Suggested course selections for preprofessional students are: a) ZOO 3303C, b) ZOO 3703C, c) PCB 4675, and d) either PCB 4745C or ZOO 4755C.)

At this point, the student will have 28 major credits. The student should also be aware of the possibility of research under ZOO 4905.

4) Biochemistry Major: Although an undergraduate major is not currently available, the undergraduate biochemistry program offers a comprehensive series of courses providing a concentration in biochemistry and molecular biology. Courses in the sequence 4313, 4203, 4905 and PCB 4535 may supplement or substitute for comparable courses in related major programs. Students desiring research experience in this area should consider BCH 4905. At some professional schools students having taken a biochemistry courses as undergraduates may exempt themselves from the biochemistry taught as part of the basic medical science sequence.

5) Interdisciplinary Major: This major, described elsewhere in the undergraduate catalog is available for above average preprofessional students.

Transfer Students: Transfer students who have received credit for the first two years of college at another institution should have no difficulty in adapting themselves to the above format with the help of an adviser. Since relatively heavy weight is placed by professional schools upon the performance of transfer students in their third year, such students should plan on taking at least 20 hours in science during the first two or three terms at the University of Florida. Those transfer students who have completed all of the basic preprofessional course requirements should consider taking additional courses in either chemistry, zoology, microbiology, biochemistry, physics, mathematics or statistics. By doing well in courses which are taken by many preprofessional students at the University of Florida, transfer students can enhance their academic records and provide admission committees with a basis of comparison of their academic abilities with other applicants.

Choice of Electives: Professional schools do not appear to have any significant bias toward elective courses chosen by students. These schools, in fact, look with favor upon students who have shown broad interests and educational development during their college career. Commonly selected science electives include senior research, CHM 3120-3120L, BCH 4313 , BCH 4203, MCB 3020C, ZOO 3703C, ZOO 4755C, PCB 4253-4253L and PCB 4745C. Students who have displayed academic weakness in any of the required preprofessional core course areas (especially chemistry or biology) generally are advised to offset such weaknesses by stronger perfomances at a more advanced level. It should be reemphasized that students applying to the University Miami School of Medicine, to the University of South Florida College of Medicine and to Emory Medical and Dental Schools should complete additional advanced courses as listed above before graduating regardless of their major.

CLEP Credit: It is generally agreed that receipt of CLEP credit does not imply the equivalent of educational experience received in any university-level course. You should plan on taking courses in every area in which you have been granted CLEP credit, especially in English. Unless you are advised otherwise, you should begin with introductory level courses, or courses at the 2000 level for which you are certain that you possess the prerequisites.

Post-baccalaureate undergraduate work: Students who have received a BS or BA degree and have not qualified for professional school because of a lack of quality and/or quantity of preprofessional work may want to consider additional work at the undergraduate level to make up these deficiencies. Students interested in this possibility should consult the Director of the Office of Preprofessional Education, 353 Little Hall.

NURSING

General Education Requirements

	Credits
English	3
Social Sciences	3
ANT 2410 (Cultural Anthropology) or SOC 2000 (Sociology)	3
Biological Science (APB 2150, 2151, BSC 2010, or ANT 3511 are recommended)	3-4
Humanities	9
Behavioral Studies (BES 2121, MAF 2200, PSY 2013, or PCO 3714 are recommended	3
Electives	11-12
Sub-total	36

***Preprofessional Requirements**

Microbiology APB 2170-APB 2170L	4
**Human Nutrition HUN 2201	3
Expository and Argumentative Writing	3
Statistics	3
Chemistry	6
Human Anatomy and Physiology (Must include lab) PET 3320 and PET 3350	6
Developmental Psychology or Human Growth and Development (DEP 3003 or EDF 3110)	3
Sub-total	28
Total	64

*Preprofessional courses may not be met by CLEP.

**HUN 2201 may be taken by correspondence; final grade must be received by the College of Nursing four weeks prior to registration for the Nursing Curriculum.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
ENC 1101 Expository and Argumentative Writing	3
SSI 2110 or 2120 Social Science	3
CHM 1020 Chemistry	3
HUM 2210 Humanities	3
APB 2150 or 2151 Biological Science	3
General Education Statistics	3
HUM 2230 Humanities	3
APB 2170 Microbiology and APB 2170L Laboratory	4
ENC 1102 English	3
CHM 1021 Chemistry	3

SOPHOMORE YEAR

	Credits
SOC 2000 or ANT 2410 Sociology or Anthropology	3
PET 3320 Anatomy (must include lab)	3
HUN 2201 Human Nutrition	3
PSY 2013 or MAF 2200 General Psychology or Marriage and Family	3
Electives	3

Electives	2
HUM Humanities	3
PET 3350 Physiology	3
DEP 3003 or EDF 3110 Developmental Psychology or Human Growth & Development	3
Electives	3
Electives	3

PHARMACY

The educational program in pharmacy is divided into two phases: (1) The preprofessional curriculum and (2) the professional curriculum. The requirements of the preprofessional phase can be completed at any accredited four-year institution or community college of the student's choice prior to entering the College of Pharmacy. Students choosing to matriculate at a college other than the University of Florida should ceprofessional phase can be completed at any accredited four-year institution or community college of the student's choice prior to entering the College of Pharmacy. Students choosing to matriculate at a college other than the University of Florida should cstry, Health Related professions, Medicine, Nursing, Veterinary Medicine and the Shands Teaching Hospital and Clinics. In this environment the pharmacy student has an excellent opportunity to learn and work with other health professionals. The College is accredited by the American Council on Pharmaceutical Education and is a member in good standing of the American Association of Colleges of Pharmacy.

March 1 is the deadline for submitting an application to the University Registrar in the year the student wishes to enter the College of Pharmacy.

Prepharmacy Program

To be considered for admission to the College of Pharmacy the applicant must have: (1) earned at least 64 semester hours of acceptable college credit with an overall average of "C" or higher on all course work attempted; (2) completed all lower division courses required for the desired curriculum as indicated below in the program for the Freshman and Sophomore years; (3) passed all the required preprofessional courses (general and organic chemistry, physics, biological sciences and mathematics) within the prepharmacy curriculum with an average of "C" or higher; and (4) submitted scores on the Pharmacy College Admission Test (PCAT) to the College of Pharmacy. See College of Pharmacy for further information on Requirements for Admission and PCAT.

The courses listed below are recommended for the first two years of prepharmacy. For academic advisement and other information contact the Office for Student Affairs, College of Pharmacy (Room P-111), J. Hillis Miller Health Center.

	Credits
Social Sciences	6
*English, ENC 1101 and 1102	6
Behavioral Studies or Equivalent	3
**CHM 2042, 2042L, 2043 Gen. Chem. & Qual. Anal	8
Humanities	9
Economics (ECO 2023 Recommended)	3
BSC 2010C, 2011C Integrated Biology Core	8
***PHY 2053, 2054 General Physics	8
CHM 3210, 3211 Organic Chemistry	6
CHM 3211L Organic Chemistry Laboratory	2
****Approved Electives	5
	Total 64

*CLEP credit cannot be used to complete the composition requirement.

**Students not qualified for this sequence should take the CHM 2040, 2041, 2042L, 2043 series (11 credits).

***Students wishing to pursue a research pharmacy career should take physics laboratory (PHY 2053L, 2054L).

****The electives shall include a mathematics requirement through one course in calculus. Recommended courses are MAC 1132 (Algebra and Trigonometry) and one of the following: MAC 3223 (Survey of Calculus I); or MAC 2233 Calculus for Economics and Business); or the first course in the MAC series beginning with MAC 3311 (Analytical Geometry and Calculus). Students planning to pursue a research pharmacy career should take MAC 3311. The remaining elective credits are to be chosen by the student.

New students are admitted to the College of Pharmacy in August each year when the fall semester begins. Students in prepharmacy should plan their course schedules for each term so that the minimum 64 credits and specific course requirements are satisfied by August of the year expected to enter the College of Pharmacy.

PHYSICAL EDUCATION, HEALTH AND RECREATION

Students expecting to major in the College of Physical Education, Health and Recreation should pursue one of the following programs:

A. FOR MEN AND WOMEN INTENDING TO MAJOR IN PHYSICAL EDUCATION

***General Education Requirements**

	Credits
Social Sciences	
POS 2041 American Federal Gov't. or POS 2112 American State and Local Gov't	3
SSI American Institutions	3
Behavioral Studies	
PSY 2013 General Psychology	3
Biological Science	
APB 2150 The Biological Sciences—Cells, Organisms, and Genetics	3
English Composition (ENC 1101, ENC 1102)	6
Humanities	
HUM 2210 Western Humanities	3
HUM 2230 Western Humanities	3
HUM Humanities	3
Mathematics	
MAC 1132 Algebra-Trig	4
Physical Science	
ISC Fundamentals of Physical Science	3
ISC Fundamentals of Physical Science	3

*Students should consult departmental academic advisors for alternative courses that meet these requirements.

****Preprofessional Requirements**

	Credits
PET 3320 Applied Human Anatomy	2
PET 3320L Applied Anatomy Lab	1
PET 3350 Applied Human Physiology	2
PET 3350L Applied Physiology Lab	1
HES 2000 Personal and Family Health	3
HES 2400 First Aid and Personal Safety	2
SPC 3601 Public Speaking or SPC 2300 Introduction to Speech Communication	4

If the student has completed these courses, the courses may meet general education requirements related to the minimum hours to be accepted into upper division.

**Student should consult required courses under the Department of Professional Physical Education listings.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
POS 2041 American Federal Gov't. or POS 2112 American State and Local Gov't	3
ENC 1101 English	3
ISC 2400 Fundamentals of Physical Science	3
MAC 1132 Algebra-Trig	4
HES 2400 First Aid and Personal Safety	2
Electives	2
SSI American Institutions	3
ENG 1102 English	3

COLLEGE OF LIBERAL ARTS AND SCIENCES

HUM 2210 Western Humanities 3
ISC 2401 Fundamentals of Physical Science 3
HES 2000 Personal and Family Health 3
Electives 1-2

SOPHOMORE YEAR

	Credits
PSY 2013 General Psychology	3
APB 2150 The Biological Sciences—Cell, Organisms, and Genetics	3
HUM 2230 Western Humanities	3
PET 3320 Applied Human Anatomy	2
PET 3320L Applied Anatomy Lab	1
PET 3590 Professional Seminar	2
PEP 2131 Weight Training and Conditioning	2
Electives	1
SPC 3601 Public Speaking or SPC 2300 Introduction to Speech Communication	4
HUM Humanities	3
PET 3350 Applied Human Physiology	2
PET 3350L Applied Physiology Lab	1
Required courses under Department of Professional Physical Education	6
Electives	1-2

B. FOR MEN AND WOMEN STUDENTS INTENDING TO MAJOR IN HEALTH EDUCATION

General Education Requirements

	Credits
ENC English Composition	6
MAC or MGF Mathematics	3
SSI Social Sciences	6
HUM Humanities	9
PSC Physical Sciences	3
CHM Chemistry	3
APB Biological Sciences	7
SPC Oral Communications	4

Preprofessional Requirements

	Credits
HES 2000 Personal and Family Health	3
HES 2001 Community and Environmental Health	3
HES 3404 Instructors First Aid	3
PSY 2013 General Psychology	3
APB Microbiology	4
SOC 2000 Principles of Sociology	3
*Electives for concentration area(s)	8

*Choices may be made from a number of interdisciplinary courses. See academic advisers for checklist of courses and acceptable substitutes in the concentration areas.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
ENC English	3
SSI Social Sciences	6
MAC or MGF Mathematics	3
APB Biological Sciences	3
HES 2000 Personal and Family Health	3
ENC English	3
HUM The Humanities	3
PSC Physical Sciences	3
SPC Oral Communication	4
Total	31

SOPHOMORE YEAR

	Credits
HUM The Humanities	6
CHM Chemistry	3
SOC 2000 Principles of Sociology	3
PSY 2013 General Psychology	3
APB Biological Sciences with Laboratory	4
APB Microbiology with Laboratory	4
HES 2001 Community and Environmental Health	3
HES 3404 Instructors First Aid	3
*Electives for concentration area(s)	5
Total	34

*Choices may be made from a number of interdisciplinary courses. See academic advisers for checklist of courses and acceptable substitutes in the concentration areas.

C. FOR STUDENTS INTENDING TO MAJOR IN RECREATION

General Education Requirements

	Credits
*English Composition	6
Mathematics	3
**Behavioral Studies	3
***Social Science	6
The Humanities	9
****Physical Sciences	6
****Biological Sciences	6

*Must earn a grade of "C" or better in 6 hours of English composition.
**General Psychology is recommended for Public and Therapeutic Majors.
***American, State and Local Government is recommended for Public Recreation Majors.
****Three credits of one of these may be omitted.

Choices may be made from a number of disciplinary courses listed under Authorized Courses for General Education in the Liberal and Sciences section of this catalog. See Academic Advisor in the Recreation Department for acceptable substitutions.

Related Professional Requirements:

(For Public and Therapeutic Recreation Concentration)

	Credits
ENC 3213 Technical Writing and Business Comm.	2
HES 2400 First Aid	2
*SPC 3601 Public Speaking	4
EDF 3110 Human Growth and Development or PCO 3714	3
**PSY 2013 General Psychology	3
***Activity Requirements:	
One Racquet and one Team Sport	2
One Aquatics and one other Individual Sport	2

*If a student has not completed this course at the lower division level (community college, etc.), a competency examination, administered by the University of Florida Recreation Department may be substituted for this requirement. Check with the Recreation Academic Advisement Office for details.
**Counts for General Education (Behavioral Studies) and for related professional requirements.
***One hour is required from each area.

(For Public Recreation Concentration)

	Credits
SOC 2020 Social Problems or SOC 3310	3
ECO 2013 Basic Economics or MAR 3023	3
LIS 2001 Use of Books and Libraries	2
PEQ 3109 Aquatic Management	3
PAD 4003 Introduction to Public Administration	3
*POS 2112 American, State & Local Gov't	3

*Will count as a Social Science

(For Therapeutic Recreation Concentration)

	Credits
PPE 3004 Psychology of Personality	3
EAB 4704 Introduction to Applied Behavioral Analysis	3
HES 3114 Health Education & Medical Terminology	2
PET 3220 Applied Human Anatomy	3
PET 3640 Physical Education for the Handicapped	3

(For Public Recreation Concentration)

FRESHMAN YEAR

	Credits
Activity Requirement (one Racquet and one Team Sport)	2
ENC English Composition	6
HES 2400 First Aid	2
Social Science (American, State & Local Government)	3
PSC/APB Physical Science/Biological Science	6
HUM Humanities	3
SOC Social Problems or SOC Urban Sociology	3

MGF Mathematics	3
LEI 2023 Foundations of Leisure Services	2
Electives	4

SOPHOMORE YEAR

	Credits
Activity Requirement (one Aquatics & one other Individual Sport)	2
PSC/APB Physical Science/Biological Science	3
BES Behavioral Studies	3
SPC 3601 Public Speaking	4
HUM Humanities	6
SSI Social Science (Social Problems)	3
PSY 2013 General Psychology	3
ENC 33S2 Technical Writing and Business Comm.	2
LEI 3140 Philosophy and History of Leisure Services	2
Electives	5

(For Therapeutic Recreation Concentration)

FRESHMAN YEAR

	Credits
Activity Requirement (one Racquet and one Team Sport)	2
ENC English Composition	6
HES 2400 First Aid	2
Social Science	6
PSC/APB Physical Science/Biological Science	6
HUM Humanities	6
MGF Mathematics	3
Electives	3

SOPHOMORE YEAR

	Credits
Activity Requirement (one Aquatics & one other Individual Sport)	2
PSC/APB Physical Science/Biological Science	3
BES Behavioral Studies (General Psychology)	3
HUM Humanities	3
PSY 2013 General Psychology	3
SPC 3601 Public Speaking	4
HES 3114 Health Education and Medical Terminology	2
PET 3320 Applied Human Anatomy	3
ENC 3352 Technical Writing and Business Comm.	2
LEI 2023 Foundations of Leisure Services	2
LEI 3140 Philosophy and History of Leisure Services	2
Electives	4

COLLEGE OF LIBERAL ARTS AND SCIENCES

Part II: Students Classified LS

College of Liberal Arts and Sciences

General Statement

The College of Liberal Arts and Sciences is the gateway college for entering freshmen and other students with fewer than 64 credits, providing for their academic advisement and their general education. It also provides advanced education leading toward degrees in a variety of disciplinary and cross-disciplinary fields in arts and sciences.

Culturally and historically the programs of the College of Liberal Arts and Sciences represent the core of all higher education. The humanities, the social sciences, the natural and biological sciences — all are studied in the College and all contribute to the richness of its program.

The major aim of the College is to impart the ideas, concepts, motivations, and skills of a liberal education to students to enable them to assume leadership positions in society. Intellectual inquiry, the intelligent evaluation of ideas, and an appreciation of the dominant thought patterns of the world are the tools the College seeks to impart to its students. Upon these fundamentals, they will be enabled to build rewarding lives. Moreover, they will also acquire that knowledge necessary to launch a successful career through further study in the graduate and professional colleges.

The LS classification applies to students pursuing Liberal Arts and Sciences degrees. Most such students are in their junior or senior years but, as noted above, freshmen and sophomores may be approved for the LS classification. Qualified students who are admitted by transfer from other institutions with 64 or more credits are classified LS.

INFORMATION FOR STUDENTS SEEKING DEGREES IN LIBERAL ARTS AND SCIENCES

SUBJECT-MATTER FIELDS

The subject-matter fields regularly offered to students in the College of Liberal Arts and Sciences and the extent of these offerings are indicated in the table below:

Subject	Major	Masters	Ph.D.	Electives
American Studies	X	—	—	X
Anthropology	X	X	X	X
*Art History	X	—	—	X
Asian Studies	X	—	—	X
Astronomy	X	X	X	X
Atmospheric Sciences	—	—	—	X
Biochemistry	—	—	—	X
Biology	—	—	—	X
**Botany	X	X	X	X
Chemistry	X	X	X	X
Computer and Information Sciences	X	—	—	X
Criminal Justice	X	—	—	X
***Economics	X			X
English	X	X	X	X
Foreign Languages				
Classics	X	X	—	X
French	X	X	X	X
German	X	X	—	X
Latin	—	X	—	X
Russian	X	—	—	X
Spanish	X	X	X	X
Others (e.g. Asian and African Languages, Hebrew, Italian, Polish, Portuguese)	—	—	—	X
Geography	X	X	X	X
Geology	X	X	—	X
History	X	X	X	X
Individual/Interdisciplinary Studies	X	—	—	—
Latin American Studies	—	X	—	X
Linguistics	—	X	X	X
Mathematics	X	X	X	X
**Microbiology and Cell Science	X	—	—	X
*Music	X	—	—	X
Philosophy	X	X	X	X
Physics	X	X	X	X
Political Science	X	X	X	X
Psychology	X	X	X	X
Religion	X	—	—	X
Sociology	X	X	X	X
Speech	X	X	X	X
Statistics	X	X	X	X
*Theatre	X	—	—	X
Zoology	X	X	X	X

*Graduate work offered through College of Fine Arts. Except for majors, a maximum of 6 hours of credit in studio art, music performance, and theater courses may be included in the minimum of 124 hours required for the degree.

**Degrees also offered through College of Agriculture.

***Graduate work offered through College of Business Administration.

Standards For Students Classified As LS

(1) Those students admitted without having demonstrated the necessary foreign language competency will be required to register for an appropriate course and to make satisfactory progress every semester until they have completed the foreign language requirement.

(2) Students who have not satisfied the College distribution requirement prior to admission will be expected to make reasonable progress each term toward its completion, as with the foreign language requirement.

(3) Every student will be expected to make satisfactory progress each term toward satisfying the requirements of an approved major within the College of Liberal Arts and Sciences.

REQUIREMENTS FOR ADMISSION TO THE LS CLASSIFICATION

The University of Florida and the College of Liberal Arts and Sciences encourage applications of qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this college. It should be understood, however, that minimum requirements are given and that admission to this college is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. A student's total record including educational objective, pattern of courses previously completed, quality of previous academic record, and test data will all be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested.

Students classified UF: admission to the LS classification is normally approved if the student has earned acceptable college credit with an overall average of 2.0 or higher on all college level work attempted. Certain majors require higher averages, however. Students should contact their major department concerning this. Students should, however, be firm about their major before applying for the LS classification.

Transfer Students: To be eligible for admission to the College of Liberal Arts and Sciences, with an LS classification, a transfer student must satisfy the minimum requirements for admission to an Upper Division College that are set forth in the ADMISSIONS Section of this catalog.

A. Students attending four year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses as outlined under Requirements for Degree.

B. Junior and Community College transfer students should:

1. Complete a university transfer program at the lower division college.

2. Indicate an intended major field of concentration, using the exact terminology as on the list of majors at the beginning of the Liberal Arts and Sciences section of this catalog.

3. If pre-medical, pre-optometry, pre-dental, pre-veterinary, or if planning to major in mathematics, biological or physical sciences; be certain to substitute subject-matter courses in mathematics, botany, zoology, chemistry or physics for survey courses in those areas. See Medicine, Dentistry and Optometry programs listed in earlier pages.

4. Attempt to satisfy the foreign language requirement of the College prior to transfer. All candidates for degrees awarded by the College of Liberal Arts and Sciences are required to have at least a minimum proficiency in some foreign language. The requirement may be met by the satisfactory completion of a beginning course sequence in one foreign language (10 semester hours). Students who plan to continue the study of a language which they began at another institution must take a placement test before registering. If the minimum proficiency called for above is demonstrated by examination, this will constitute satisfaction of the foreign language requirement. Consult the appropriate language departmental office for specific examination schedules. Transfer students having fewer than 10 semester hours of one foreign language may complete the requirement beginning at the point determined by a proficiency test. The student is advised to take the language proficiency examination as early as possible after admission lest a basic course has to be repeated with the result that the student loses credit for prior coursework. If the student wishes to pursue study of a different language than that for which credit was previously earned, the earlier credit will stand. Intensive summer study in French and Spanish is available for students who have earned no previous foreign language credit in college.

5. Complete as many sequential courses as possible prior to transfer, especially the foreign language sequence (see item 4 above). Some courses are cumulative and represent a direct continuation of work done in a previous course. It is difficult to guarantee complete articulation of such courses when they are offered in a different institution.

6. Choose general education courses to satisfy the basic distribution requirement (See Section B, under Requirements for Degrees), and choose a variety of elective courses as needed to complete 64 semester hours of credit. (Vocational-technical courses will not count as transfer credit.)

7. Earn a GPA of 2.0 or better in all courses attempted. No course in which a grade of less than 2.0 has been earned may be used to satisfy any basic or major requirements in the College of Liberal Arts and Sciences.

8. Wait until after transfer to the University to take courses in professional education if the student expects to work toward certification to teach.

Special post-baccalaureate student (6LS): A student who has received a baccalaureate degree but who is not seeking admission to the Graduate School may, under certain conditions, be admitted as a special student (6LS). The applicant must meet deadlines printed in the University Calendar. The College will seek the approval of the appropriate academic officer: the chairperson of the department specified by the student, the graduate coordinator of the department, or the Director of Preprofessional Education. Such approval must be granted for admission. Students making application for admission under this category are advised that they *must declare a specific major field of study.*

Graduate student: The general section of this catalog dealing with admission describes certain minimum requirements for admission of graduate students to the University. Additional details for admission are given in the Graduate School catalog.

ADVISEMENT OF STUDENTS CLASSIFIED LS

Upon admission to the LS classification, the student should contact a departmental academic adviser. Students who have received the LS classification are allowed considerable freedom in planning their programs, within the framework of College and departmental requirements. The faculty member's role is primarily to give advice. The student assumes the major responsibility for fulfilling college and departmental degree requirements. IGNORANCE OF A RULE DOES NOT CONSTITUTE A BASIS FOR WAIVING THAT RULE.

Students are urged to review the information presented in the Liberal Arts and Sciences section of the catalog each term when planning their programs. Failure to read, understand, and follow the guidelines presented here could cause significant hardship and delays in their academic progress. Clarification of college requirements is available in the Academic Advisement Office, 358 Little Hall.

Pre-Professional Advisement is available in 353 Little Hall for Pre-medical, Pre-dental, Pre-optometry and Pre-law students.

HONORS PROGRAMS FOR JUNIORS AND SENIORS

Consistent with its view that higher education should result in the development of each student as an intellectual individual, this college gives its students a wide selection of degree programs with electives. In addition the College offers a variety of opportunities for independent and seminar honors work to those of its undergraduates who have demonstrated appropriate qualifications.

Superior students should take initiative in planning undergraduate and graduate programs. The honors coordinator in the department of the student's major should be consulted about the department's procedures leading to the baccalaureate degree with honors or high honors. Minimum requirements set by the College require a 3.5 overall upper division average and a thesis or special project. On the basis of the quality of the thesis or project, the department will recommend the student for honors or for high honors.

DEAN'S LIST

At the end of the Fall and Spring terms, the Dean's List regularly recognizes outstanding academic achievement. Inclusion on the list is awarded to students who earn a grade point average of 3.5 or higher on reasonable course loads, a minimum of 15 hours. This award is not granted for hours taken under the S-U option or for which a grade of "I", "X", or "H" has been submitted.

PHI BETA KAPPA

Phi Beta Kappa is an honorary scholastic society for students of high intellectual ability with a broad liberal education. The first chapter was founded in 1776 at the College of William and Mary. The UF chapter was established in 1938. Election is by invitation, not application.

Not over 10 percent are chosen from those ranking academically in the upper 15 percent of the senior class in the College of Liberal Arts and Sciences who also meet the following criteria: at least 46 semester hours of courses in the College of Liberal Arts and Sciences; completion of the foreign language requirement; a broad distribution of letter-graded upper division electives outside the major subject (notably, in the humanities, social sciences, mathematics,

and the physical and biological sciences); and superior academic performance in lower and upper division generally, as well as in the major field.

Students in colleges other than Liberal Arts and Sciences who meet these requirements may be recommended in writing by the dean of their college. The society also considers a selected number of graduate students in Liberal Arts and Sciences who have earned the Ph.D. during the previous year.

For further information, contact Dr. William C. Childers, 4221 GPA.

GENERAL REGULATIONS

Maximum, Minimum and Normal Loads: The normal course load in this College is 15 credit hours, and all students are expected to carry a normal load. Loads of fewer than 12 or more than 19 hours must be approved by the student's academic adviser.

Adding/Dropping/Withdrawing: Courses may be added anytime during the drop/add period if this does not increase one's registration to more than 19 hours. Courses may be dropped during the drop/add period without penalty as long as this does not lower one's registration below 12 hours (See Maximum, Minimum and Normal Loads above). After the drop/add period, a course may be dropped up to the date established as the College deadline. All drops are subject to the following restrictions:

(1) No more than two (2) such drops, after the University's drop/add period will be permitted in the student's upper division career. A maximum of one drop will be allowed during any semester except when extremely well-documented support is furnished. Students on academic warning or probation will not be allowed to drop courses.

(2) After the deadline, students may petition to drop a course provided they can document sufficient reasons to drop, usually hardship or medical.

(3) The course load will not be reduced below 12 hours. (A petition to the Liberal Arts and Sciences Petition Committee must accompany the request to drop a course when the outcome reduces the load below 12 hours.)

(4) Final approval to drop a course after the University's drop/add period must be obtained from the Academic Advisement Office, 358 Little Hall. Students must attend all classes for which they are registered. Failure to attend a class will not be accepted by the College as constituting a drop; the only procedure for dropping a class is the proper processing of a drop card which the student must initiate.

(5) Students dropping their entire course load must contact the Office of the Registrar, as this constitutes withdrawal from the University and must be handled by withdrawal procedures established by the Registrar and subject to the published catalog deadlines.

Student Petitions: A student who feels that the College regulations work a particular hardship or injustice may petition for waiver of the regulation involved. Information on procedure in submitting such petitions is available in the Academic Advisement Office, Room 358, Little Hall.

Registration in Graduate Courses: Undergraduate students may not register in graduate courses (5000 level and above) without permission of the Dean. This permission is normally given only to students in their senior year who are carrying not more than 17 hours and have an average of at least 2.8. Students must present written approval from both the instructor of the course and the graduate coordinator of the department offering the course.

Registration beyond normal period for completion of degree: Any students who have completed all of the academic requirements for the baccalaureate degree but have not obtained the degree will be denied further registration in the College. If they have completed more than 15 hours beyond the normal minimum requirement for their degrees without receiving the degrees, students should obtain permission of the Dean for further registration.

Class Attendance: The University and this College recognizes the right of the individual professor to make attendance mandatory and, where appropriate, and after due warning, to suspend students from those courses with failing grades for excessive absences.

REQUIREMENTS FOR DEGREES

The program which leads to the degrees Bachelor of Arts or Bachelor of Science are alike in all basic requirements.

The degree Bachelor of Arts will be conferred upon those who fulfill the requirements for degrees with majors in one of the fields of American Studies, Anthropology, Art, Asian Studies, Classics, Criminal Justice, Economics, English, French, German, History, Music, Philosophy, Political Science, Religion, Russian, Sociology, Spanish, Speech, and Theatre.

The degree Bachelor of Science will be conferred upon those who fulfill the requirements for degrees with majors in one of the fields of Astronomy, Botany, Chemistry, Computer and Information Science, Microbiology, Physics, and Zoology.

The degree of Bachelor of Arts or Science will be conferred upon those students who fulfill the requirements for the degree with a major in Geography, Geology, Mathematics, Psychology, Statistics, or an Individual Interdisciplinary Program. Students should consult the undergraduate coordinator in their major department to discuss the appropriate curriculum in the event they elect the Bachelor of Science option for the major. In no instance will the College confer two Bachelor of Arts degrees, or two Bachelor of Science degrees on the same student. The requirements for graduation with either of these degrees are listed below.

Student Responsibility: Students must assume full responsibility for registering for the proper courses and loads and or fulfilling all degree requirements. Students are responsible for completing all courses for which they are registered at the end of the drop/add period.

Seniors must file formal application for a degree in the Office of the Registrar early in the semester in which they expect to receive the degree. The official calendar shows the latest date on which this can be done.

Additionally, seniors who plan to graduate should have their academic file reviewed in the College of Liberal Arts and Sciences Office one to two semesters prior to their graduation. In their final semester seniors should have corrected all "I", "X" and "H" grades to letter grades by no later than the end of the fifth week. Seniors are themselves responsible for seeing that all grade changes are properly submitted and recorded by the College of Liberal Arts and Sciences Office by the above deadline.

A. CREDIT REQUIREMENTS AND RESTRICTIONS

A minimum of 124 semester hours credit (normally 64 in the lower division and 60 while classified LS) with an overall average of "C" or better in all work transferred to or completed in the College and an overall average of "C" in all work attempted at the University of Florida. NOTE: Some credits may not be applicable toward the minimum degree requirements of this College. For example, no credit earned through courses in the Career Development Program or through the College Level Examination Program may be applied towards satisfaction of degree requirements once a student has earned 64 quarter credits at any college.

The degree program must include the components listed below. Mere accumulation of credit hours will not be sufficient for graduation from this College.

At the beginning of this section is a list of subject matter fields in which credit for a degree in Liberal Arts and Sciences is granted. The primary objective of this College is to provide its students with a liberal education, and it is the

conviction of the faculty that the fields listed are in general those which are conducive to a liberal education. However, a student may select for upper division elective credit up to 9 hours of work from other colleges within the University.

No credit will be given for coursework taken outside the College beyond the 9 hours limit except for the following special cases.

Special Cases:

1. The minimum total of 124 hours required for the bachelor's degree may include not more than 16 hours credit in education provided the student follows an approved program and becomes NCATE Certified. If a student is in a certification program, the only hours outside the college which could apply would be the 16 hours of education.

2. An approved interdisciplinary major may include more than 9 hours of course work in another College.

3. A preprofessional degree in Speech Pathology and Audiology may include up to 18 hours outside the College, as determined by the student's departmental adviser.

B. GENERAL EDUCATION REQUIREMENTS

Students are expected to complete general education requirements; the courses authorized for general education are listed on earlier pages. Advanced students may substitute other suitable courses, if approved by a College Adviser. The College awards the Associate of Arts Certificate to qualified applicants to certify completion of general education. General education credit may also be used in satisfaction of the following Basic Distribution requirements.

C. DISTRIBUTION REQUIREMENTS

These requirements build upon the experiences, intellectual development, and insights acquired through the General Education program. They are designed to provide the liberally educated person with an understanding and appreciation of the human condition, the evolution of civilization and its institutions, and the principles of science and their impact on man and society.

General education course credits can be applied toward these requirements. Students must earn a grade of C or better in each of these courses. They may not be taken under the S-U option. One course cannot be used to complete requirements in two different areas. No more than 6 credits can be taken in History toward completion of distribution requirements.

These requirements include:

6 hours credit in English (At least one course must be a composition course — CLEP credit cannot be used to complete the composition requirement.)

9 hours credit in Humanities (no more than 6 credits in one department may be counted.)

9 hours credit in the Social and Behavioral Sciences (No more than 6 credits in one department may be counted.)

6 hours credit in Mathematics, Statistics, or Computer and Information Sciences (At least one course must be in Mathematics.)

12 hours credit in the Natural Sciences (At least 6 hours must be in the Biological Sciences and at least 6 hours in the Physical Sciences, including a minimum of one laboratory course.) All students must earn a grade of C in one course in a biological science department: APB, BSC, BOT, ACB, ZOO.

TOTAL 42 credits

The following courses may be taken to complete the distribution requirements. This list does not replace general education requirements.

English: any course in English except LIS 2001, LIS 2100, and LIN 2340. Beginning students are normally expected to complete ENC 1101 and ENC 1102, which are designed for freshmen. Qualified students, however, may substitute more advanced courses (2000 level) with the approval of a departmental adviser. Prerequisite to all 3000- and 4000-level courses are 6 hours of English or permission of the instructor.

Humanities: ASN 2001, any course in Classics, English Literature (English Literature courses at the 2000, 3000, and 4000 levels may be used to fulfill the Humanities requirement.), History, Humanities, LIN 3010, LIN 3340, Philosophy, Religion (except REL 3158 and REL 3322), Art History, Music Appreciation, and Foreign Language Literature.

Social and Behavioral Sciences: any course in American Institutions, Anthropology (except ANT 3511), Behavioral Studies, Criminal Justice, Economics, Geography (except GEO 3200), History, Political Science, Psychology (except for courses listed below under Biological Sciences and Laboratory Requirements), and Sociology. Also acceptable: LIN 3221, LIN 3611, LIN 3700, REL 3158, REL 3322, SPC 2300, SPC 3601, SPC 3710. Certain of these departments offer courses with laboratories which may also satisfy the laboratory requirement. Refer to the details given below.

Mathematics: any course in Mathematics (except MAT 1033 and any course with prefix of MAE), any course in Statistics, and in Computer and Information Sciences (except COC 3400).

Natural Sciences:

(Physical Sciences) — any course in Chemistry, Physics, Geology, Atmospheric Sciences, Astronomy, Physical Sciences, GEO 2200;

(Biological Sciences) — any course in Zoology, Botany; any BSC course, ANT 3511, APB 2150, 2151, and 2152, CBH 3003, CBH 4023C, DEP 3003, EXP 3204, EXP 3604, EXP 4104, EXP 4124C, EXP 4214.

Laboratory Requirements: any course in a Natural Sciences department that has a laboratory. Also accepted are: ANT 3511, GEO 2200L, APB 2152L, SOP 4214C, EAB 4022, EXP 4205L, EXP 4934, PPE 4324C, PSB 4104L, CBH 4023C, DEP 4704, PSC 2191L. Corequisites must be adhered to.

NOTE: Some lab courses may not be taken without corequisite courses.

D. FOREIGN LANGUAGE REQUIREMENT

All candidates for degrees awarded by the College of Liberal Arts and Sciences are required to have at least a minimum proficiency in some foreign language. The requirement may be met by the satisfactory completion of a beginning course sequence in one foreign language (10 semester hours). Students who plan to continue the study of a language which they began at another institution must take a placement test before registering. If the minimum proficiency called for above is demonstrated by examination, this will constitute satisfaction of the foreign language requirement. Consult the appropriate language departmental office for specific examination schedules. Transfer students having fewer than 10 semester hours of one foreign language may complete the requirement beginning at the point determined by a proficiency test. The student is advised to take the language proficiency examination as early as possible after admission lest a basic course has to be repeated with the result that the student loses credit for prior coursework. If the student wishes to pursue study of a different language than that for which credit was previously earned, the earlier credit will stand. Intensive summer study in French and Spanish is available for students who have earned no previous foreign language credit in college.

E. ELECTIVE REQUIREMENT

Of the minimum of 124 semester hours required for a bachelor's degree in the College of Liberal Arts and Sciences, 64 are normally earned before the student is admitted to the LS classification. At least 30 of the hours remaining after the first 64 must be electives. An "elective" is defined as any course earned outside of the student's major department. For instance, a foreign language is an elective to all LS students except Foreign Language majors. Twenty-one (21) of these hours must be in Liberal Arts and Sciences courses; nine (9) may be taken in other colleges. However, no more than 9 semester hours outside the College of Liberal Arts and Sciences will be counted toward the 124 minimum (except in special cases as noted above.)

F. RESIDENCE REQUIREMENT

The last thirty hours to be applied toward a degree must be completed in residence in the College of Liberal Arts and Sciences. In special cases this requirement may be waived,

but in no case may the total credits earned by extension or correspondence exceed twelve of the last thirty-six credits applied toward the degree.

G. THE MAJOR

1. Departmental Majors: A departmental major consists of a concentration of course work in a specific department. On the application for admission the student must indicate an intended major, using the exact terminology as on the list of majors in the Liberal Arts and Sciences section of this catalog. The number of credit hours required for a major will vary from department to department, but in no case may the number of hours required be fewer than 24 hours or more than 40 hours in the major department. The student should check the major requirements in the section of the catalog which lists the courses offered by the major department. Some departments may require subsidiary courses from subject-matter fields other than the major. No courses in the major in which the grade earned is below "C" will be counted toward the fulfillment of the minimum major requirement nor may they be taken under the S-U grading option. Work in the major taken in the freshman or sophomore years or transferred to the University from another institution is included in evaluating the student's record for this requirement. However, all transfer credit in the major must be approved by the major department.

2. Interdisciplinary Majors: As alternatives to the departmental major, the College offers two kinds of interdisciplinary majors;

a. The interdisciplinary programs in American Studies, Asian Studies, and Criminal Justice have been fully planned by the cooperating departments and adopted by the College. For a description of each of these programs, see the appropriate heading under the alphabetical "Course Descriptions" section of this catalog.

b. An individual interdisciplinary program may be designed and initiated by a student whose academic and/or professional goals are not met by a departmental major. At least two faculty members from different departments must be consulted in planning the program, and they must also agree to supervise the program to completion. At least one of the departments must be in the College of Liberal Arts and Sciences. Each individual interdisciplinary program must be approved by the College Committee on Interdisciplinary Studies, and shall include at least 24 credit hours of related course work taken in two or more departments. All other College degree requirements (e.g., foreign language, general distribution, electives, etc.) must be met, except that course work taken in another college may be permitted to exceed 9 credit hours if such is required by an approved program. The student must also take at least 6 credit hours of IDS-4906 (or equivalent courses) under the direction of one or both of the supervisory faculty members, and produce a senior thesis.

Baccalaureate honors or high honors are available to individual interdisciplinary majors. Requirements are the same as for departmental majors, with the additional provision that honors must be recommended by two members of the student's supervisory committee (including the principal supervisor), who will affirm that the student conducted an individual project in IDS-4906 (or equivalent) of high quality and reflecting the interdisciplinary nature of the program.

Planning for an individual interdisciplinary program should be initiated no later than the beginning of the junior year. Late applications will result in students being denied acceptance into the program. Students interested in pursuing an interdisciplinary major should contact Associate Dean F. Eugene Dunnam in the College Office, Room 2121, GPA.

The following are examples of interdisciplinary programs which have been developed as a result of recent student interest:

Atmospheric Sciences (Meteorology)

Undergraduate students in the College of Liberal Arts and Sciences may be approved to develop an individualized interdisciplinary major in Atmospheric Sciences (or Meteorology) leading to the B.S. degree. The program is designed to provide the student with a background in the atmospheric sciences and their applications to such problems as air pollution, economic impact of weather on agriculture, influences of anthropogenic chemical releases on weather, atmospheric radiation, transmission of polar radiation through the atmosphere, and soil-water-air interfaces. The curriculum includes courses from such departments as Geography, Physical Sciences, Physics and Astronomy, Environmental Engineering Sciences, Fruit Crops, Mechanical Engineering, Agricultural Engineering, and Chemical Engineering.

A Minor in Atmospheric Sciences suited to the science or engineering major desiring a basic introduction to the study of the atmosphere is available.

A Non-Technical Minor in Atmospheric Science is also available. The program is designed to meet the increasing need for a fundamental understanding of environmental phenomena in many non-technical professions.

For further information, consult Dr. Karl Taylor, 309 Space Sciences Research Building.

Biochemical Sciences

Undergraduate students interested in advanced work in biochemistry may apply for acceptance into the individual interdisciplinary major program of Biochemical Sciences in the College of Liberal Arts and Sciences. The program offers considerable breadth by virtue of its flexibility and the broad range of required and elective courses. Graduates of this program would have excellent backgrounds for research in a variety of the basic medical sciences, and would be well qualified for a variety of graduate and medical school programs.

Program applicants are required to have a good background in basic chemistry and zoology courses. Advanced level work includes 1) course work required by both the Biochemistry Department; 2) research in biochemistry; 3) other elective courses to be selected from offerings by the Departments of Biochemistry, Botany, Chemistry, Microbiology, Neuroscience, Psychology, and Zoology.

For further information about the biochemistry program consult Dr. R. J. Mann, 343 MSB.

Film Studies

While the University of Florida does not offer an undergraduate degree in film or cinema arts, an individual interdisciplinary major in Film Studies is offered through the College of Liberal Arts and Sciences and the Department of Broadcasting in the College of Journalism and Communications. This interdisciplinary major provides a background in film history, aesthetics, theory, and criticism, and gives training and "hands on" experience in film production. Students usually begin this major at the start of their junior year in the College of Liberal Arts and Sciences.

Students interested in the program may obtain further information from a member of the Film Studies faculty. A list of Film Studies faculty members and their office addresses is available from the Department of English, 4008 General Purpose Building A.

Linguistics

An individualized major in Linguistics may be approved for undergraduate students in the College of Liberal Arts and Sciences. This program is designed to provide the student with a background in the study of language, dialects, communication, and particular languages. It will prepare the student for graduate work in linguistics or the study of languages, the teaching of English as a foreign language, and advanced work in related areas. The curriculum includes certain required core courses and optional courses from a variety of fields.

Interested students should consult Dr. Paul Kotey, Room 107, Grinter Hall.

Neurobiological Sciences

An individual interdisciplinary major in Neurobiological Sciences may be developed by academically strong under-

graduate students in the College of Liberal Arts and Sciences through the faculty of the Center for Neurobiological Sciences. The program is intended to provide the student with a fundamental and broad-based academic foundation for graduate and professional programs and related areas.

The curriculum includes core requirements covering humanities; social sciences; and physical, natural, and biological sciences. In addition to the core requirements, students select courses in either a very broad or a more specialized program in, for example, such areas as animal behavior, neurochemistry, neurophysiology, sensory mechanisms, neuroendocrinology, brain and behavior, or neuroembryology. In order to focus their academic work in the various areas, all students in the program are required to participate in research with a member of the faculty of the Center for Neurobiological Sciences, coupled with a research seminar.

For further information about this program, consult the Psychology Departmental Office, 1114 Psychology Bldg.

Urban Studies

Students in the College of Liberal Arts and Sciences who wish to pursue a major concentration in urban studies may apply to do so as an individual interdisciplinary major. Alternatively they may also pursue a minor area of interest in the Urban Studies Certificate Program. The Urban Studies major is designed to provide a sound and broadly based program in the social sciences for students who plan to enter professional planning schools, graduate urban studies programs, or expect to work upon receipt of the baccalaureate degree.

The core of courses required of all students in the major provides the broadest possible exposure to the several disciplines concerned with urban problems and also to the broadest range of methodologies used in urban analysis. If possible, the research project in IDS 4905 course is carried out in conjunction with an internship in a firm or agency suitable to the student's interest.

A number of faculty members from departments in the social sciences serve as a panel from which students choose a committee of at least two members to supervise their progress through the program and the IDS 4905 project.

Questions about the Urban Studies program may be directed to Dean F. Eugene Dunnam, 2121 GPA.

SPECIAL PROGRAMS

ENGLISH LANGUAGE INSTITUTE

A full-time noncredit, nondegree program in English as a second language is available to foreign students with some knowledge of the language who wish to increase their competency. The program, which may be taken any of the quarters of the academic year, emphasizes the oral and written skills needed by students from abroad who plan to attend a university in the United States. Further information is available from Dr. Jayne C. Harder, Director, English Language Institute, 162 Grinter Hall, University of Florida, Gainesville, Florida 32611.

TEACHER PREPARATION IN ARTS AND SCIENCES

Students may earn their degrees in the College of Liberal Arts and Sciences and complete requirements for certification as secondary school teachers in one or more academic subjects by following one of the Liberal Arts and Sciences-Education Programs described in the College of Education section of this catalog.

Further information may be obtained in the Academic Advisement Office, Room 358, Little Hall.

SPECIALIZATION IN AUDIOLOGY AND SPEECH PATHOLOGY

A preprofessional academic/clinical program precedes the master's degree study which is accredited by the American Board of Examiners in Speech Pathology and Audiology. This program may be arranged through the College of Liberal Arts and Sciences or the College of Education. For admission to either program the student must consult a faculty adviser assigned by the Department of Speech (442 Arts and Sciences Building). Program requirements are described in the Speech Department section of this catalog.

To qualify for the Certificate of Clinical Competence in Audiology or in Speech Pathology awarded by the American Speech and Hearing Association or to obtain endorsement by the College of Education and the Department of Speech for State Department of Education certification in Speech Correction, it is necessary to complete a master's degree or equivalent.

Interested students should contact Mrs. Margaret P. Nattress, Coordinator, Speech and Hearing Clinic, 442 ASB.

SPECIALIZATION IN THE FINE ARTS

Music: Students interested in majoring in music should consult the faculty adviser, Professor James P. Hale, Music Building, as soon as possible in their college program.

The student who selects a major in Music must earn a total of forty semester hours in the following courses:

	Hours
Applied music in approved courses numbered above 100	6
Theory of Music MUT 1121, MUT 1122, MUT 2116, MUT 2117, MUT 2246, MUT 2247	16
Survey of Music History, MUH 3211, MUH 3212	6

Upon completion of the above courses, the student must select an area of concentration, i.e., Applied Music, Theory of Music or History and Literature, and earn twelve credits in that concentration. (These required credits are in addition to those listed above and must be specifically approved for each student.) The student must also register for and participate each term in ensemble music groups.

A piano proficiency examination is required of all music majors. The student must take Piano Skills until he has met this requirement.

A Senior student concentrating in the area of Applied music will present a Senior Recital. In the areas of Theory and History and Literature, the Senior will present a project which demonstrates his competence in his area of specialization.

For graduation with departmental honors in music, the student should apply to the chairman of the teaching faculty in his intended area of concentration at the beginning of his Junior year. In addition to the grade-point average requirement, the student concentrating in the area of Applied Music will present a Senior Recital which is adjudged by the music faculty as having reflected honors-level work in applied music in the upper division. The student in Theory, or History and Literature must present an honors project in his specialized area. This project will be prepared in connection with twelve credit hours from Music Theory courses MUT 3611, 3612, 3321, 3322, MUC 3201 3202, MUT 4411, 4421, or MUC 4301, MUL 3351, 3341, or from History and Literature courses, MUL 3362, MUH 3541, MUR 3401, MUH 3211, MUL 4371, MUL 4811, MUH 4331, MUL 4361, MUR 4801, and with the approval of the music faculty.

ART: The student who elects a major in Art must earn a total of not less than thirty-two semester hours including the following courses (1) ART 1201C-ART 1203C, ART 1300C-ART 1301C, ARH 2050-ARH 2051, a total of twenty hours; (2) a minimum of eight additional semester hours in a single field of specialization: Fine Arts, History of Art, or Ceramics; and (3) ARH 4453, 4 hours.

Students should consult Dr. Robert H. Westin in planning a major program.

THEATRE: Students seeking Theater as a major must earn a minimum of 30 credit hours in theatre courses. The specific individual program should be worked out in advance with Dr. E. James Hooks.

Transfer students must earn at least 18 credits in the department. Transfer credits will be evaluated in terms of their appropriateness to the degree requirements. In special cases, auditions or tests may be conducted.

Core Curriculum required of all B.A. candidates: ORI 2001—Oral Performance of Literature: TPP 3110—Acting 1; TPA 3200—Stagecraft and Design 1; TPP 3650—Play Analysis; TPP 3310—Directing 1; TPP 3311—Directing 2. Total: 24 credits.

Additional requirements: 1) Student must complete at least three of the two or three course sequences in Theatre (excluding the 3310, 3311 Directing Sequence).. 2) Student must complete at least eight credits in courses numbered 4000 or above.

Curriculum limitations: 1) Student may not earn more than eight credits in Acting. For B.A. candidates; Acting 1 and 2 (TPP 3110, 3111) will constitute a course sequence. 2) Student may not earn more than eight credits in Movement. For B.A. candidates, Movement 1 and 2 (TPP 3510, 3511) constitute a course sequence.

CERTIFICATE AND MINOR PROGRAMS

Other specialized programs in the College of Liberal Arts and Sciences are described in the following paragraphs. In certain of these programs, a certificate is awarded to the student upon (1) completion of a prescribed course of study and (2) recommendation of the program director and faculty. Such "certificate programs" are denoted by a boldface "C" immediately following the program title: **[C]**.

AMERICAN AREA STUDIES PROGRAM [C]

In addition to the major in American Studies (see description under interdisciplinary studies in this section) the College of Liberal Arts and Sciences offers a certificate program for students majoring in a conventional discipline who wish to focus their work on America. The student fulfills the requirements for a departmental major, elects 24 credits from among American related courses, including those in his major field, and take AMS 2030, Introduction to American Studies; AMH 4041, Studies in American Civilization; and AMH 4935, Senior Seminar in American Civilization. Interested students are referred to Professor Stephen S. Conroy, 3350 GPA, for information and advisement.

ASIAN STUDIES PROGRAM [C]

In addition to its interdisciplinary degree-granting program of 27 hours in Asian Studies, the College of Liberal Arts and Sciences also offers a 14-16 hours certificate program for those undergraduate students who are interested in majoring in a particularized discipline but who wish either to (1) focus on Asia in their major or (2) develop another area of knowledge which will enrich and enhance their expertise in their chosen field. The course of study for the certificate may or may not include an Asian language, depending on the individual's needs and goals.

Special arrangements may be worked out between this College and others so that a wide variety of students may avail themselves of this opportunity.

Students desiring more specific information than that furnished above and in the description of Asian Studies in this catalogue (see "Departments of Instruction") should contact Dr. Irmgard Johnson, the Director (404 Little Hall), or any member of the Instruction Staff Major Committee.

LATIN AMERICAN STUDIES PROGRAM [C]

For students interested in Latin American area studies, the College of Liberal Arts and Sciences offers two options:

1. A special curriculum, based on a single departmental major (selected from the fields of Anthropology, Economics, Geography, History, Political Science, Sociology, and Spanish), leading to a B.A. degree and a Certificate in Latin American Studies. (See Latin American Studies section of this catalog);

or

2. An individual interdisciplinary program, developed and coordinated through the Center for Latin American Studies and approved by the Interdisciplinary Committee of the College of Liberal Arts and Sciences, and leading to a B.A. degree. (See section on degree requirements for College of Liberal Arts and Sciences.)

Through special arrangement, undergraduate students in the College of Business Administration, the College of Education, and the College of Journalism and Communications may participate in the above programs.

Interested students should contact Dr. Terry L. McCoy, 319 Grinter Hall.

SOVIET AND EAST EUROPEAN AREA STUDIES [C]

The College of Liberal Arts and Sciences offers to undergraduate students an integrated program in Soviet and East European studies. The program provides a broad foundation for those preparing for graduate work in the field and for those who plan a career in government service.

The program is based on a major in one of the following departments: Economics, Geography, History, Philosophy, Political Science, Religion, Foreign Languages. The student must demonstrate a reading knowledge of Russian or an East European language, and his over-all program must include at least 24 hours of work from the courses listed below. A maximum of 10 course hours within the major may be used in fulfilling the 24 hour area requirement.

Courses in the program include: ECS 4013, 4003, ECO 4905, 513, ECO 6306; EUH 3571, 3572, 3573, ESC 4334, HIS 4930, EUH 5934, 6339, 6320, POT 414, CPO 4633, 4614, POS 4932, 4905, CPO 5636, 5065, 6637, POL 1120, 1121, 1122, 136, 427, POL 4905, 596; REL 3492; RUS 1120, 1121, 1122, 2200, 2110, 3240, 4300, 4840, 4700, 414, RUW 4100, 4101, RUS 4905, 5301, 5845, 5450, RUW 5120, 5121, RUW 5906; PHP 3765, or any other relevant courses dealing with the Soviet and East European area not listed above. Ten credits of German may also be accepted for students who are specializing in the German Democratic Republic or comparative communist systems.

All students interested in this program, including lower division students, should consult with Dr. Marvin Entner, Room 105 Grinter Hall or with Dr. James F. Morrison, Room 439 Grinter Hall.

AFRICAN STUDIES PROGRAM [C]

The African Studies Program is administered by an African Studies Center responsible for the direction and coordination of interdisciplinary instruction and research activities related to Africa. It cooperates with University departments, schools and colleges in administering and staffing a coordinated certificate program. The Center does not offer an interdisciplinary degree. With the cooperation of participating departments, it offers a certificate in African Studies in conjunction with the B.A., M.A. and Ph.D. degrees. Requirements for Certificate are listed elsewhere in this catalog.

Extracurricular Activities: The Center regularly sponsors conferences on African topics, and a colloquium series—BARAZA—with invited lecturers. The Center has a fairly wide ranging set of outreach activities addressed to public school teachers as well as community colleges and other universities. The Center is responsible for editing the *African Studies Review*, which is the journal of the African Studies Association. Two additional major functions are the publication of the *Bulletin of the Southern Association of Africanists*, and a traveling African art exhibit.

Library Resources: The Center supports directly as well as through various departments selective library acquisitions to meet the instructional and research needs of the faculty and students. The Office of Instructional Resources holds a number of educational films on African topics, and the audiovisual library of the Department of Art holds approximately 5,000 African art slides.

African Art: The University Gallery holds 121 pieces of African sculpture. The Rosenbloom Collection, 37 pieces of African sculpture, is housed at the Florida State Museum.

For Certificate requirements at the M.A. and Ph.D. levels and information on Graduate Fellowships and Assistantships, see the Graduate School Catalog. For further information on the Center's Certificate requirements, interdisciplinary majors based on African themes, and other related matters contact Dr. R. Hunt Davis, Jr., Director, Center for African Studies, 470 Grinter Hall, University of Florida, Gainesville, Florida 32611.

AFRO-AMERICAN STUDIES PROGRAM [C]

An interdisciplinary program leading to a certificate in Afro-American Studies is offered by the College of Liberal Arts and Sciences. The program is designed to furnish students an inclusive knowledge of the historical experience and condition of peoples of African origin in America.

Courses in the program are offered by a number of departments including Anthropology, Economics, English, History, Music, Political Science, and Sociology. In order to be awarded the certificate, the student must complete 15-18 credits from the courses offered, constructing in consultation with the program director a pattern of classes which best fits the student's needs. In addition, the student must complete a departmental major and fulfill the requirements for graduation from the College of Liberal Arts and Sciences.

Requirements for the certificate include: (1) the core courses in Afro-American Studies, 9 credits: AFA 2000, Introduction Afro-American Studies, 3; AFA 4936, Afro-American Studies Senior Integrative Seminar I, 3, which serves to identify and explore further issues in the Afro-American field; and AFA 4937, Afro-American Studies Senior Integrative Seminar, II, 3, which provides directed work on Afro-American research problems; (2) one or two courses from the curriculum in African Studies one of which may be AFH 3100, Africa to 1800, 3-6 credits; and electives from approved Program courses, 3-6 credits.

Additional courses in the program include ANT 4451—Racial and Cultural Minorities; LIT 3353—Ethnic Literature; AML 3271—Afro-American Literature; ECP 4143—Blacks in the American Economy; AMH 4170—Slavery and the Civil War; AMH 4572—Reconstruction and Race Relations; AMH 4579—Colloquium, History of the Afro-American; MUH 4116—History of Jazz; MUH 4561—Music of Black Americans; PUP 4003—Issues in American Politics; PUP 4313—Minorities and Change in American Politics; SOC 2020—Social Problems; SOC 3745—Minorities in American Society; SOC 4720—Black America; Current Problems, AFA 4905—Individual Study in Afro-American Studies.

For advice or information, students are invited to contact the program director, Professor R. C. Foreman, Jr., 456 Little Hall.

WOMEN'S STUDIES PROGRAM **[C]**

The College of Liberal Arts and Sciences offers a Certificate Program in Women's Studies for interested undergraduate students. Students majoring in traditional disciplines are advised by a six-person Steering Committee which will plan and administer programs with a focus on the roles and potential roles of women.

The Program cooperates with other colleges and departments on campus to coordinate each student's major with her/his special interests, needs and projected future.

To receive a Certificate in Women's Studies a student is required to complete courses totaling 12-15 credits from a selection of Women's Studies courses offered by departments in Nursing, Economics, Psychology, Education, English, Humanities, Anthropology, Political Science, Black Studies, Philosophy, Physical Education, etc. The required core course is WST 3010 (interdisciplinary Perspectives on Women — 3 credits) which is offered annually.

Interested students should contact Professor Irene Thompson, Program Director, in 4358 GPA, for further information.

WESTERN EUROPEAN STUDIES PROGRAM **[C]**

The College of Liberal Arts and Sciences of the University of Florida offers an undergraduate interdisciplinary program leading to the Certificate in Western European Studies. The program is designed for students interested in Western European culture, language, history, society, and politics. It should also be of value to students who wish to become European regional specialists or who are contemplating careers in such fields having to do with Western Europe as government service, international law, business or trade.

Each student works with an adviser in constructing a program of courses suited to his own specific interests, needs, and background. The student majors in the department of his choice but selects courses with Western European content from a number of the following departments involved in the program: Anthropology, Art, Economics, English, Geography, Germanic Languages and Literatures, History, Music, Philosophy, Political Science, Religion, and Roman Languages and Literatures.

In order to receive a Certificate in Western European Studies, a student is required (1) to complete courses totaling at least 24 credits (up to 12 of which may be from his major department) from among appropriate courses with Western European orientation in the participating departments; (2) to take a minimum of two courses from the European history sequence or to offer an equivalent substitute selected in consultation with program adviser, (3) to demonstrate a reading and speaking knowledge of a Western European language (this requirement may be satisfied either through course work or with a special examination; the same language may not, however, be offered simultaneously to meet the requirement of some other area study program); (4) to participate in EUS 4935, the interdisciplinary Western European Studies Seminar during Winter Quarter of his Senior year.

Students desiring further information about the program are urged to contact any member of the Western European Studies Committee. Dr. Harry W. Paul, 437 Grinter.

ENVIRONMENTAL STUDIES MINOR PROGRAM

A program of a minor (with certificate) in Environmental Studies is available for anyone with a major in the College of Liberal Arts and Sciences. The program is designed to be of interest to students concerned with environmental issues. Electives can be structured around an environmental theme, giving experience in an area that may expand career opportunities and make education more meaningful.

The course selection will serve to increase the student's knowledge of the interaction of man and his environment. A number of environmentally related courses requiring no prerequisites are included to help non-science majors become environmentally aware. Science majors will be able to relate their major discipline to current environmental problems through more advanced course work.

The Environmental Studies minor requires a minimum of 12 credits of approved environmentally oriented courses with at least one each from the Social, Physical and Biological Sciences to total 9 to 12 credit hours.

Courses required for the student's major cannot be counted toward the minor requirement. Courses both within and outside the College which bear on various aspects of environmental problems may be used for the minor and at the same time to fulfill the student's elective requirements. The Liberal Arts and Sciences limitation of 9 hours which may be taken for credit outside the college is waived for the Environmental Studies minor. An inventory file of approved courses for the Environmental Studies minor is available in 210 Bartram West.

Students interested in the minor should consult with their departmental adviser and the Environmental Studies Adviser in 210 Bartram Hall.

It is also possible to develop a major in Environmental Studies under the College's individual Interdisciplinary major program, where one is able to formulate a major from appropriate course areas in two or more departments. Students interested in an interdisciplinary major in Environmental Studies are referred to the interdisciplinary major description under the Liberal Arts and Sciences section of this catalog. Those interested in the major should contact Dean F. Eugene Dunnam, 2121 GPA.

JEWISH STUDIES **[C]**

Administered by the Center for Jewish Studies, this program provides an interdisciplinary and interdepartmental curriculum which serves as a basis for understanding the broad sweep of Jewish civilization. Through course work in various departments, including Religion, Foreign Languages, English and Philosophy, students may acquaint themselves with and specialize in areas within Jewish studies including Biblical Studies, Jewish history, Jewish philosophy and Jewish literature It is expected that students in the program will demonstrate or acquire competence in Hebrew. The program may serve as preparation for graduate work in Jewish Studies, whether in a university or seminary setting.

The Jewish Studies program leads to the degree of Bachelor of Arts and required completion of a departmental major. Working with advisers from the Center for Jewish Studies, students may construct individually oriented pro-

grams best suited to their needs, programs that take full account of previous preparation. Interested students should consult with Professors B. Mesch or S. Isenberg, Department of Religion.

CENTER FOR APPLIED PHILOSOPHY AND ETHICS IN THE PROFESSIONS

An interdisciplinary Center for applied philosophy and ethics in the professions is located in the College with an office in the Department of Philosophy, 240A ASB. The Center is engaged in the preparation of coursework and research bearing on the relationship of philosophy, principally ethics, to the professions. The Alfred A. Ring Professorship of Social Ethics is endowed by a professor emeritus of the university.

The Center is developing a major interdisciplinary program on the Humanities and Agriculture which consists of a number of undergraduate courses in various humanities disciplines. A special minor/certificate program is being planned. Students interested in pursuing a course of studies in ethical and cultural issues in agriculture should contact Richard Haynes, Humanities and Agriculture Program Director, 241 ASB.

BUSINESS AND ECONOMIC HISTORY **[C]**

An interdisciplinary program leading to a certificate in Business and Economic History is offered by the College of Liberal Arts and Sciences and the Department of History. The program is designed to provide students with an introduction to business and economics and an historical understanding and appreciation of these disciplines. Requirements for the certificate include: (1) AMH 4379 — United States in a World Economy; (2) two courses from among ECO 2013, ECO 2023, ECO 4303, ACC 2001, STA 3023; and (3) two courses from among ECO 2620, AMH 3371, AMH 3500, HIS 4470, HIS 4471, EUH 4640, EUH 4641, for a total of 15 credits.

For additional information, students are encouraged to contact Professor A.M. Burns, III, 4303C GPA.

CLASSICAL STUDIES **[C]**

The Certificate in Classical Studies offers students the opportunity to organize their electives in a meaningful way. Knowledge of the ancient world complements study in many disciplines and gives a liberal education a firm foundation.

To obtain a Certificate in Classical Studies, students must take four courses or a minimum of 15 hours selected from courses dealing with the ancient world. At least two courses must be taken from those offered by the Classics Department. Students seeking this certificate should maintain a 3.0 GPA in both the major and the program.

To arrange to complete a certificate in Classical Studies, students should contact Dr. Hartigan in the Classics Department, 3-C ASB, 392-2075.

STUDY ABROAD

Fifteen semeter credit hours may be earned each semester on any academic year program of study abroad. All UF summer programs satisfy UF summer residency requirement. Financial aid may be used on all UF programs. Students must have at least Sophomore standing, and have a 2.5 GPA to participate on overseas programs. For detailed information concerning study abroad, contact the Center for International Studies and Programs, 168 Grinter Hall, 392-4904.

Study abroad programs now in effect at the University of Florida are open to students of other universities also, and include the following:

LONDON, ENGLAND

Juniors and Seniors study at the Kensington College campus in London, while Sophomores take classes and live at Richmond College in the suburbs of London. There are over 200 courses from which to select in Liberal Arts, Business, and Education. Classes are taught by British faculty.

A 7 week summer program is offered using the centrally located Kensington College campus. The first week is for independent travel followed by 6 weeks of classroom instruction. Eight courses offered in Liberal Arts, Business and Education. Six semester hours credit.

MONTPELLIER, FRANCE

The UF has affiliated with the University of North Carolina at Chapel Hill's program at Montpellier. Students must have completed 2 years of precollege French and 3 semesters of college French wih a B average in order to participate. The first 4 weeks of September are spent in an intensive French language and orientation program, after which students enter regular classes at the Universite Paul Valery.

PARIS, FRANCE

The UF has affiliated with the American Institute for Foreign Study's program at the Sorbonne University which offers a two-track system: the Honors Program is for Juniors and Seniors with 2 years of college French. All classes in the Honors Program are taught in French by faculty from the Sorbonne. The European Studies Program is for Sophomores and Juniors who want to improve their French (2 semesters of college French necessary for participation). Some classes are offered in English on the European Studies Program, but students must take a French language and a French civilization course each semester. The first 3 weeks of both programs are spent in an intensive language course and orientation in Antibes.

A 7 week summer program is offered at the Sorbonne during which only French language and culture may be studied. The first week is spent in independent travel. Six semester hours credit.

BONN, GERMANY

Students must be at least a Junior to participate, and have completed 3 semesters of college level German. The month of September is spent in an intensive language program after which students are given a language proficiency exam before being allowed to enter regular classes at Bonn University.

HAIFA, JERUSALEM, TEL AVIV, ISRAEL

Students may study at either Haifa University, Tel Aviv University, or Hebrew University. The program at all 3 universities is especially designed for American students, and commences with a 10 week Ulpan during which the student studies Hebrew. Students may choose from a large selection of courses after that for the academic year. Most courses are taught in English though the student is urged to continue to master the Hebrew language.

NIJENRODE, THE NETHERLANDS

This program is for Juniors majoring in Business Administration with a minimum of 3.0 GPA. It is an exchange program with the Netherlands School of Business and is limited to 5 students. Classes are taught in English by Dutch faculty, but students must study a foreign language also. During the spring semester there is a 10 week field internship with a European business.

A 5 week summer program is offered at the Netherlands School of Business during which 2 courses may be taken in International Management, International Finance, or International Marketing, for a total of 4 semester hours credit.

UTRECHT, THE NETHERLANDS (EXCHANGE) The UF has an exchange program with the Rijksuniversiteit Utrecht which is limited to 10 students. An intensive Dutch language course is taught at the UF during Spring semester prior to study in Utrecht the following fall. All students planning to study in Utrecht must take it. In addition, an intensive Dutch language course is taken by all the participants during the fall semester at Utrecht. In the spring semester at Utrecht students take classes in many varied fields. The classes are taught in Dutch, but papers and examinations are usually accepted in English.

POZNAN, POLAND

The UF has an exchange program with the Adam Mickiewicz University of Poznan, Poland. Within the framework of the program there are a number of opportunities for upper division undergraduates and graduate students to study and conduct research in Poland. Fellowships are available. Knowledge of the Polish language is necessary.

An 8 week summer program of Polish language, history, politics and socialist economics is offered for 10 semester credit hours.

It is possible for UF faculty to spend from 1 month to a year in Poland under the auspices of our exchange program, either lecturing (in English) or doing research, or both.

SALAMANCA, SPAIN

The UF has affiliated with the American Institute for Foreign Study's program in Salamanca, Spain. The month of September is spent in an intensive Spanish language and orientation program, after which students take classes at the University of Salamanca in Spanish language and civilization. Two semesters of college level Spanish are necessary for participation. Students who are fluent in Spanish may take almost any class offered at the University of Salamanca.

A 7 week summer program is also offered at Salamanca. The first week is for independent travel followed by 6 weeks of Spanish language classes taught by faculty from the University of Salamanca at the beginning, intermediate, and advanced levels for 6 semester credit hours.

In addition to the summer abroad programs in England, France, The Netherlands (Nijenrode), Poland and Spain, the UF offers summer programs as follows:

INNSBRUCK, AUSTRIA

A 9 week program which allows the first 3 weeks for independent travel or students may take an organized tour of Europe for an additional fee. Approximately 70 classes in Liberal Arts, Business, and Education are taught by faculty from the University of New Orleans and UF as well as guest professors from European universities. Nine semester credit hours. It is recommended students take a German language course prior to participation.

SANTOS, BRAZIL

A 7 week program with the first week spent in Rio de Janeiro accompanied by a UF faculty member sight-seeing and touring places of interest. Next 6 weeks are spent in Santos, a port city near Sao Paulo, studying Portuguese language and Brazilian culture at the Centro Cultural Brazil-Estados Unidos. Six semester credit hours. Students must have completed 2 semesters of Portuguese prior to participation in the program.

BOGOTA, COLOMBIA

Students spend 6 weeks at the Universidad de los Andes in Bogota studying Spanish and Colombian culture. Spanish is taught at the intermediate and advanced levels, and all instruction is by Colombian faculty. One semester of Spanish is required prior to participating. Six semester credit hours.

POROS, GREECE

This is a 6 week program offered in conjunction with the Aegean Institute. Classes are offered in Greek drama, literature, art, and language. Instruction is in English by faculty from American universities with on site lectures and related field trips. Students must take Modern Greek language and at least one additional course during the program. Six semester credit hours.

STUDENT COUNCIL

The College of Liberal Arts and Sciences Student Council (CLASSC) is composed of student representatives from each of the College's departments as well as student representatives with lower division classification. CLASSC is specifically concerned with enhancing the academic environment within the College. This past year, CLASSC helped expose students to a vast array of speakers, films, and lectures. Projects funded included: a History Forum Lecture, a Political Science Film Festival, a trip by the Students in the African Studies Association to a working stimulation of the Organization for African Unity, followed by a presentation to students by the delegates. Also funded were: the Debate Team, guest speakers through the Geology Club, the Pre-Legal Society, and much more. All in all more than 28 presentations were made possible by CLASSC funding.

Academic scholarships totalling $2000.00 were offered by the Council to CLAS students. These included undergraduate scholarships in the humanities and sciences, a graduate study scholarship, and a foreign study scholarship. The Council's services also include a typing lab where students may use the available typewriters.

The Council places students, by application, on several faculty/student committees, including the Advisory Committee on General Education, the Advisory Committee on International Studies, the College Curriculum Committee, and the Faculty-Student Advising Committee.

The School of Accounting

GENERAL STATEMENT

The School of Accounting of the University of Florida was established July 1, 1977. The objective of the School of Accounting is to provide the technical and general education for graduates to assimilate the proficiency necessary to enter the accounting profession and progress rapidly through levels of increasing responsibility. The field of accounting offers outstanding opportunities in such areas as public accounting, industrial accounting, nonprofit accounting, and tax accounting.

The accountant deals with complex problems in the business world. This requires a thorough knowledge of business operations and the environment of business as well as accounting knowledge. In addition to the demanding technicals skills, an ability to communicate clearly in both verbal and written form is essential. The accountant interacts with people constantly and must develop interpersonal skills. Accounting is more of an art than a science and professional judgment is an important element in the practice of accountancy. Although accounting is unusually demanding and requires a high achievement motivation in order to succeed, the rewards are high.

SCHOLARSHIPS AND ASSISTANTSHIPS

Information about general financial aid can be obtained from the Director of Student Financial Aid, University of Florida, Gainesville, Florida. Information concerning scholarships available specifically for fourth and fifth year accounting students can be obtained by writing to the School of Accounting, University of Florida, Gainesville, Florida.

HONORARY AND PROFESSIONAL ORGANIZATIONS

Beta Alpha Psi

This honorary accounting fraternity has 115 chapters nationally. Upsilon Chapter was the 18th chapter to be founded (in 1938) and is recognized as one of the best chapters in the country. An active professional program is conducted each year including guest speakers, panel discussions, field trips, and other activities designed to promote professional awareness. Beta Alpha Psi cosponsors the Graduate Accounting Conference which annually attracts more than 100 accounting practitioners. Membership requirements include high ethical standards and a minimum grade point average. Additional information concerning these requirements may be obtained from the School of Accounting.

Beta Gamma Sigma

Election to this national business honorary society is based on scholarship and character. For additional information apply to the Office of the Dean, College of Business Administration.

Florida Accounting Association

The FAA is a professional/social organization that is open to all accounting students. Its aims are to facilitate communication between accounting students and the accounting profession, and to encourage greater interaction between students and faculty.

School of Accounting Student Council

Members of the School of Accounting Student Council are elected by the students of the School. The Council performs a leadership role in a variety of School activities (student newsletter, Business Day, Teacher of the Year Award, orientation sessions) and provides student representation on faculty committees.

ACCOUNTING RESEARCH CENTER

The Accounting Research Center was organized in 1976 to sponsor and encourage both frontier-seeking research and research that has immediate benefit to the profession. The Center provides an opportunity for graduate students to become involved in specific research projects on a regular basis. Occasionally research projects provide a similar opportunity for undergraduate students. The Center publishes research results in a working paper series. For information contact the Director of the Accounting Research Center, School of Accounting, University of Florida, Gainesville, Florida.

PROGRAM OF STUDY

The recommended curriculum to prepare for a professional career in accounting is the five-year program leading to the Master of Accounting degree. The five-year program allows the student to concentrate in an accounting specialty in addition to providing knowledge of both the basic accounting framework and the underlying business and related disciplines. Details concerning the five year program including the specialization areas of financial/auditing, managerial/cost, systems and tax are included in the *Graduate School Catalog* which can be obtained by writing the Director of Admissions, University of Florida, Gainesville, Florida. Additional information can also be obtained by contacting the School of Accounting, University of Florida, Gainesville, Florida.

Students who successfully complete the first four years of the five-year program will receive the Bachelor of Science in Accounting degree. Graduates will have the requisite accounting, business, and general education to pursue a variety of career opportunities in accounting and business and to apply to graduate and professional degree programs in accounting, business or law. Students wishing to specialize in professional accounting should plan to complete the final year of the five-year program.

Prospective students are cautioned to become familiar with the pending change to a five year requirement to sit for the Certified Public Accountants Examination.

REQUIREMENTS FOR ADMISSION

The University of Florida and the School of Accounting encourages applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific minimum requirements for admission to this School. It should be understood however that these are *minimum requirements* and that admission to this School is subject to enrollment capacity and is a selective process. *The satisfaction of minimum requirements does not automatically guarantee admission.* A student's total record including educational objective, pattern of courses previously completed, quality of previous academic record, and test data will all be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested.

Students Classified UF: To be eligible for admission to the School of Accounting, a student classified UF must have completed at least 12 semester credits of preprofessional courses. Acceptance to the School of Accounting will be based upon the grade point average earned and prerequisite courses completed.

Transfer Students: To be eligible for admission to the School of Accounting, a transfer student must satisfy the minimum requirements for admission that are set forth in the transfer admissions section below. Additionally, the ap-

plicant should complete, as far as possible, the courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the College of Liberal Arts and Sciences section. A minimum of 12 semester credits of preprofessional courses must be completed prior to admission to the School of Accounting. *Completion of these courses and receipt of an AA degree does not guarantee acceptance to the School of Accounting.* Acceptance to the School of Accounting is based upon prerequisite courses completed and the student's earned grade point average and depends upon enrollment capacity.

A. Students attending four year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the Basic Curriculum for the Freshman and Sophomore years for students desiring to enter the School of Accounting which is outlined in the College of Liberal Arts and Sciences section of this catalog. Prerequisite courses in business subjects during the first two years should be completed as indicated in paragraph B.3 below. Courses should not be taken during the first two years which are offered only at the upper division level at the University of Florida.

B. Junior College and Community College students should:

1. Complete the university transfer program at the junior college.
2. Complete the general education requirements established for the junior college.
3. Complete, insofar as possible, all of the following courses which are prerequisite to any advanced professional work in the School: an introductory course (or courses) covering both financial and managerial accounting, a one-year sequence in economics, a one-year sequence in analytical geometry and calculus, and an introductory course in statistics. Differences in the order of presenting material in basic one year courses make it highly undesirable to take parts of such courses in different institutions.
4. Choose elective courses needed to complete the total 64 semester hours in the university transfer program from such areas as mathematics, natural sciences, social science, foreign language, and humanities.
5. Avoid professional coursework that is available at the University of Florida only as 3rd and 4th year courses. TRANSFER STUDENTS ARE ADVISED TO AVOID SUCH COURSES AS BUSINESS LAW, PRINCIPLES OF MARKETING, PRINCIPLES OF FINANCE, PRINCIPLES OF MANAGEMENT, PRINCIPLES OF INSURANCE, PRINCIPLES OF REAL ESTATE, PERSONNEL MANAGEMENT, AND COMPUTER MANAGEMENT COURSES. A maximum of four semester credits may be allowed for courses taken during the first two years which are available only as third and fourth year professional courses in the College of Business Administration at the University of Florida. Any credit granted for such work will be in the form of undistributed elective credit without reference to specific courses taken. IN NO CASE MAY SUCH COURSES BE IN ACCOUNTING. In the case where a student wishes to waive an upper division core course and substitute a community college course, waivers may be granted on an individual basis but the student will be required to take another course in the area being waived. The course will be specified by the Department Chairman of the area.

GENERAL REGULATIONS

STUDENT RESPONSIBILITY: The student must assume full responsibility for registering for the proper courses and for fulfilling all requirements for the degree. The student is also responsible for completing all courses for which he or she is registered.

Courses may be dropped with adviser approval until the end of the first week of the semester without petitioning. After the first week courses may be dropped or changed without penalty only through the administrative office of the School and the Registrar.

Seniors must file formal application for a degree in the Office of the Registrar early in the semester in which they expect to receive the degree. The official calendar shows the latest date on which this can be done.

NORMAL LOADS: The normal course load in the School of Accounting is 15 credit hours per semester. A student may be permitted to register for additional hours if in the opinion of the academic adviser, his or her academic record justifies it. Students who wish to take a lower course load should be aware that certain university privileges and benefits require a minimum registration. It is the student's responsibility to verify the minimum registration necessary for these benefits.

RESIDENCE: The last 30 semester hours to be applied toward the degree must be completed in residence in the School of Accounting. A student may not take more than six semester credit hours by extension or correspondence among the 60 semester credits of upper-division work required for the baccalaureate degree and such work must have prior approval from the Assistant Director of the School. REQUIRED ACCOUNTING COURSES TAKEN BY EXTENSION, BY CORRESPONDENCE, OR AT ANOTHER UNIVERSITY MAY NOT BE TRANSFERRED AND APPLIED TOWARD REQUIREMENTS FOR THE B.S. DEGREE.

SATISFACTORY-UNSATISFACTORY GRADE OPTION: An undergraduate student in the School of Accounting may take on the S-U basis only those courses which will be counted as free electives in fulfilling degree requirements.

PROBATION AND SUSPENSION: Students who do not make satisfactory academic progress will be excluded from further registration. More than one grade below C in upper division accounting course work is considered unsatisfactory progress.

GRADUATION REQUIREMENTS: To receive the degree Bachelor of Science in Accounting a student must satisfactorily complete the following:

1. 64 semester credit hours of lower division requirements.
2. An approved program in accounting.
3. Upper division core courses.
4. Elective requirements.

A minimum of 124 semester credit hours is required for graduation. The waiving of any required course does not reduce the hours required for graduation. A student must maintain an overall average of 2.0 and a 2.0 average on all courses which count toward his or her upper-division degree requirements. A 2.0 average must also be maintained for all upper-division accounting courses.

DEAN'S LIST AND GRADUATION WITH HONORS OR HIGH HONORS:

A student who carries 14 hours per semester with a grade point average of 3.5 will be placed on the Dean's list for that semester.

To graduate *With Honors*, a student must make at least a 3.2 average on all course work accepted as Upper Division credit and all course work (except as noted below) attempted while registered in the Upper Division. To graduate *With High Honors*, a student must make at least a 3.6 average on all work accepted as Upper Division credit and all course work (except as noted below) attempted while registered in the Upper Division. In calculating requirements for graduating *With Honors* or *With High Honors*, the following policies are followed: the student must have completed at the University of Florida at least 40 semester hours for Upper Division credit toward a degree in Accounting, transfer credits and S-U grade credits will be excluded; and credits for Lower Division courses taken while registered in the Upper Division will be excluded

GRADUATE DEGREES AND ADMISSION TO GRADUATE WORK

Courses are offered in the School of Accounting leading to the degree of Master of Accounting. For requirements for

these degrees and for admission to Graduate School, consult the *Graduate School Catalog.*

CURRICULUM

The upper division curriculum in Accounting requires 60 semester credits.

UPPER DIVISION REQUIREMENTS

Required Nonaccounting courses:

	Credits
QMB 3700 Operations Research and Management	3
MAN 3010 Principles of Management	3
MAR 3023 Principles of Marketing	3
FIN 3403 Principles of Finance	4
COP 3120 Introduction to Cobol Programming	3
ECO 3100 Prices and Markets	3
BUL 4112 Business Law	4
Business Policy	3
	Total 26

Required Accounting Courses:

	Credits
ACC 3123 Financial Accounting I	4
ACC 3143 Financial Accounting II	4
ACC 3401 Cost and Management Accounting	4
ACC 4501 Federal Income Tax Accounting I	4
ACC 4602 Auditing I	4
ACC 4741 Information Systems for Management Planning and Control	4
	Total 24

Electives: No accounting courses (except ACC 4940) may be counted for elective credit. A maximum of 6 credits of advanced military science may be counted for elective credit. A minimum of 4 elective hours must be taken outside the School of Accounting and College of Business Administration. Students are advised to include a Speech course among their electives 10

Total 60

College of Agriculture

AGRICULTURAL AND EXTENSION EDUCATION

AGRICULTURAL ENGINEERING

(See College of Engineering)

AGRONOMY

ANIMAL SCIENCE

BOTANY

DAIRY SCIENCE

ENTOMOLOGY AND NEMATOLOGY

FOOD AND RESOURCE ECONOMICS

FOOD SCIENCE AND HUMAN NUTRITION

SCHOOL OF FOREST RESOURCES AND CONSERVATION

FRUIT CROPS

MECHANIZED AGRICULTURE

MICROBIOLOGY AND CELL SCIENCE

ORNAMENTAL HORTICULTURE

PLANT PATHOLOGY

PLANT SCIENCES—GENERAL

POULTRY SCIENCE

SOIL SCIENCE

STATISTICS

VEGETABLE CROPS

College of Agriculture

The aim of the College of Agriculture is to provide students with the best education possible for service in agricultural business, technology, and science.

The departments in the College are: Agricultural and Extension Education, Agricultural Engineering, Agronomy, Animal Science, Dairy Science, Entomology and Nematology, Food and Resource Economics, Food Science and Human Nutrition, Fruit Crops, Microbiology and Cell Science, Ornamental Horticulture, Plant Pathology, Poultry Science, Soil Science, Vegetable Crops, and Veterinary Science. Degree programs are available through the College of Agriculture in Botany and Statistics departments administered in the College of Liberal Arts and Sciences. The School of Forest Resources and Conservation is a specialized faculty within the College of Agriculture.

REQUIREMENTS FOR ADMISSIONS

The University of Florida and the College of Agriculture encourage applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this college.

Any student with a UF classification who has finalized his decision to study Agriculture may apply for admission to the College of Agriculture after completing one semester in the College of Liberal Arts and Sciences.

To be eligible for admission students must have a minimum of a C average on all work completed and have demonstrated by selection of preprofessional courses their intent to pursue a program in agriculture.

Transfer Students: To be eligible for admission to the College of Agriculture, a transfer student must satisfy the minimum requirements for admission to an Upper Division College that are set forth in the ADMISSIONS Section of this catalog. Additionally, the applicant must satisfy the following specific requirements for consideration by the College of Agriculture: (1) Complete the courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years at the University of Florida and, (2) pass all required preprofessional courses with a minimum grade of C. The following conditions will serve as a guide in expediting transfer to the College of Agriculture in compliance with the above requirements. In the event enrollment quotas become necessary because of limited space or teaching resources, selection of those admitted will be on the basis of past academic performance.

A. Students attending four-year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the Basic Curriculum for the Freshman and Sophomore years for students planning to enter the College of Agriculture as outlined in the Lower Division section of this catalog.

B. Junior College students should:

1. Complete the two-year college parallel program at the junior college.

2. Satisfy the general education requirements established for the junior college.

3. Complete a program of chemistry through qualitative analysis and mathematics through college algebra and trigonometry.

4. Complete basic courses in biology or botany and zoology.

5. Complete a course in general economics.

6. Complete a course in general physics.

7. Choose elective courses in fulfilling the required total hours in the college-parallel program from the areas of speech, journalism, English, and the basic sciences. Speech and journalism are considered preprofessional requirements for students majoring in Agricultural and Extension Education.

8. Avoid specialized professional courses. Professional courses can be taken to much better advantage after the student has acquired the appropriate background in general education and basic science courses.

Special post-baccalaureate student (6AG): A student who has received a baccalaureate degree but who is not seeking admission to Graduate School may be admitted under certain circumstances as a special student. Examples of these circumstances are:
a) to receive a second baccalaureate degree
b) satisfy requirements for a second major
c) take basic requirements for admission to Graduate School and
d) to complete courses for information only.

Admission requirements are the same as for transfer students. In addition, post-baccalaureate students must comply with College and University rules and regulations and meet all deadlines as printed in the catalog for undergraduate students.

BACHELOR OF SCIENCE IN AGRICULTURE BASIC CURRICULUM

In addition to the 64 semester credits required for entrance to the College of Agriculture, 64 credits must be earned in the College of Agriculture curriculum for a combined total of 128 credits required for the Bachelor of Science in Agriculture degree.

In addition, students must have a 2.0 grade point average both in Upper Division and all credits attempted at the University of Florida. The following curriculum to all areas of agriculture designates specific requirements and electives for the degree Bachelor of Science in Agriculture. Some of these courses may be taken as electives in the Lower Division. It is especially important that students in junior colleges, planning to transfer to the College of Agriculture, select courses from the core requirements as electives.

Curriculum — College of Agriculture — 64

Requirements and electives in student's major department ..... *min. 13—max. 27*
Other requirements, free and approved electives *37-51*

PRACTICAL WORK EXPERIENCE

By prior arrangement with individual Department Chairmen and approval of the Dean, students may, during their upper division course of study, receive credit for practical work under competent supervision in any recognized and approved agricultural or related pursuit relevant to their college program. Credit is normally earned at the rate of one credit per month of full-time work and may not exceed a total of four in any combination of experiences. A formal written report must be submitted before a grade (S-U) will be issued.

Departments offering this option have listed the course number 4941 in their catalog listing courses. Guidelines are available from the College and individual departments, establishing minimum criteria for credit eligibility and performance.

DEAN'S LIST AND GRADUATION WITH HONORS OR HIGH HONORS

A student who carries 15 hours per semester with a grade point average of 3.3 or better and no grade less than C in any course will have his name placed on the Dean's list for that semester.

Students completing the requirements for the B.S. in Agriculture degree are eligible to be considered for graduation with Honors or High Honors.

To graduate with Honors a student must have a University of Florida Upper Division grade point average of 3.5, or above. (For purposes of honors the University of Florida Upper Division courses are defined as all courses taken at this

University after the student has earned 64 credits, wherever taken.)

To graduate with High Honors the same requirements apply as for Honors except that the grade point average must be 3.75 or above.

GRADUATE TRAINING IN AGRICULTURE

The College of Agriculture offers four advanced degrees: Master of Agriculture, Master of Science, Master of Agricultural Management and Resource Development, and Doctor of Philosophy.

Students contemplating graduate study should consult with their advisers as early as possible to insure proper program planning.

SPECIAL PROGRAMS

SCIENCE, TECHNOLOGY, AND BUSINESS

Students in agriculture may specialize in one of three broad areas of knowledge—Agricultural Science, Agricultural Technology, and Agricultural Business, all within the framework of 128 credits for the degree Bachelor of Science in Agriculture.

For a specialization in Agricultural Science at least 12 credits of the 128 total are required in one or more of the areas of the Physical (CHM, GPY, PHY) and Biological Sciences (BSC, BOT, ENY, PLP, AGR) and Mathematics (MAC), in addition to those required in the Lower Division.

For program in Agricultural Technology a choice of courses in applied agriculture is planned by the separate departments of the College of Agriculture in areas of the student's special interest.

For Agricultural Business Specialization at least 13 credits of the 128 total required must be completed from the areas of Food and Resource Economics (AEB) and Business Administration (ACC, ECO, FIN, MAN, MAR), in addition to those required in Lower Division plus a departmental major.

The academic adviser of the department in which the student majors will assist the student in arranging his course of study, and make necessary recommendations to the Dean. The student's courses for each semester are subject to the approval of the Dean and the Department Chairman.

TROPICAL AGRICULTURE

A program for a specialization (with certificate) in Tropical Agriculture for undergraduate and graduate students in the College of Agriculture is available. The program provides course selection to broaden the normal degree requirements for those interested in specializing in Tropical Agriculture. Students enrolled in any one of the existing major programs in the College of Agriculture may pursue this specialization.

The Certificate in Tropical Agriculture specialization will include courses from four basic groups as follows: Area Studies, International Economics, Tropical Ecosystems, and Tropical Agriculture. A total of at least 13 semester credits from courses which relate to non-U.S. tropical areas of the world is required from Area Studies, International Economics and Tropical Ecosystems with at least 3 credits from each category. In addition, a minimum of 13 credits from Tropical Agriculture courses related to production of agricultural commodities in tropical areas of the world is required.

The courses required for this specialization will be determined by the student in consultation with a departmental adviser from an approved list of courses as indicated in the Tropical Agriculture Specialization guidelines. In most cases the requirements may be met through a wise choice of electives. Students interested in this specialization should consult their departmental adviser.

A certificate program for non-agriculture students desiring to broaden their major program with courses relating to Tropical Studies with an emphasis in Agriculture is also available.

The Certificate in Tropical Studies will require 13 semester credits in courses from the three basic groups: Area Studies, International Economics, and Tropical Ecosystems and a minimum of 10 credits from Tropical Agriculture courses.

The courses required for this Certificate will be determined by the student in consultation with a departmental adviser and approved by the Dean of the College of Agriculture. Students interested in this program should consult the Dean of Agriculture.

The departments or disciplines from which courses may be selected are listed below. The specific courses as well as all details of the program are given in a Tropical Agriculture Specialization guideline statement to be used by departmental advisers.

Area Studies
Anthropology
Education
Geography
History
Journalism
Latin American Studies
Law
Political Science
Sociology
Others as appropriate

International Economics
Economics
Food and Resource Economics
Marketing
Others as appropriate

Tropical Ecosystems
Agronomy
Biological Sciences
Botany
Forestry
Zoology
Others as appropriate

Tropical Agriculture
Agricultural Engineering
Agronomy
Animal Science
Entomology
Food and Resource Economics
Fruit Crops
Ornamental Horticulture
Plant Pathology
Soil Science
Vegetable Crops
Veterinary Science
Others as appropriate

PEST MANAGEMENT AND PLANT PROTECTION

Students in the Pest Management and Plant Protection Specialization will receive instruction in the principles of Entomology, Nematology, Plant Pathology, and Weed Science. An understanding of the component parts of the crop-plant ecosystem as related to management of all groups of pests through the application of biological, chemical, and integrated systems compatible with a quality environment will be provided.

Students who select the Pest Management and Plant Protection Specialization will major in one of the following programs in the College of Agriculture: Agronomy, Entomology and Nematology, Fruit Crops, Ornamental Horticulture, Plant Pathology, Plant Sciences, or Vegetable Crops. Students who complete the requirements for the Bachelor of Science degree with this specialization should find many employment opportunities in agri-business enterprises or government agencies concerned with plant pest management, crop production, and environmental protection. Moreover, the successful completion of this undergraduate program will place the student in an excellent competitive position as a candidate for graduate studies in any one of the departments cooperating in the undergraduate major program at the University of Florida or any other university.

An interested student should contact an academic adviser in his/her department and must indicate (register) with the

chairman of the interdisciplinary committee on Systems of Pest Management and Plant Protection. The following required courses should be completed in addition to the major program requirements. The requirements of this specialization can usually be met through the course requirements of the major program and a wise choice of electives within the 128 credits required for the Bachelor of Science in Agriculture.

	Credits
PMA 3010 Fundamentals of Pest Management	2
PMA 3323C Pesticide Application	2
PMA 3931 Seminar in Basic Pest Management	1
PMA 3941 Internship in Pest Management	1
PMA 4401C Understanding & Implementing Pest Management Strategies in Agricultural Systems	3
PLS 2031 Fundamentals of Crop Production	3
ENY 3005 Principles of Entomology	2
ENY 3006L Principles of Entomology Laboratory	1
ENY 3701 Principles of Nematology	3
PLS 4601 Weed Science	3
PLP 3002 Fundamentals of Plant Pathology	4
PCB 3043 Introduction to Ecology	5
BOT 3503 Introductory Plant Physiology	3
BOT 3503L Introductory Plant Physiology Laboratory	2
BCH 3023 Elementary Organic and Biological Chemistry	4
SOS 3022C General Soils	4
AGR 3303 Genetics	3

CERTIFICATE MINOR IN ENVIRONMENTAL STUDIES

A program for a minor (with certificate) in environmental studies has been developed. The program provides course selection to obtain a broad knowledge of the environment, especially the inter-relationships between the activities of man and environmental quality. Students enrolled in one of the existing major programs in the College of Agriculture and for this minor will learn to apply their major discipline to the solution of environmental problems.

The environmental studies minor will include environmental courses in three basic groups as follows: biological sciences, physical sciences, and social sciences. At least one course from each of these three groups is required. A minimum of 12 semester hours credit is required for the minor. Courses required for the major cannot be counted toward the minor requirement. A minimum of three hours outside the College of Agriculture is required.

The courses required for this minor will be determined by the students in consultation with their departmental adviser from an approved list of courses prepared by the department, the College of Agriculture and the University. In most cases these requirements may be met through a wise choice of electives. Students interested in this minor should consult their departmental adviser.

PRE-VETERINARY MEDICINE

The College of Veterinary Medicine, University of Florida, admits a limited number of students each fall for the pursuit of a degree Doctor of Veterinary Medicine. The following courses must be completed with no grade less than C and a minimum grade point average of 2.75.

	Semester Credits
BSC 2010C and BSC 2011C Integrated Principles of Biology I and II	8
Microbiology (MCB 3020C)	4
Genetics (AGR 3303 or PCB 3653C)	3-4
Chemistry:	20-23
Inorganic Chemistry (General and Qual.); lecture and laboratory (CHM 2040, 2041, CHM 2042L and CHM 2043C; or CHM 2041, CHM 2042L, CHM 2043C)	8-11
Organic Chemistry; lecture and laboratory (CHM 3210; CHM 3211-3211L)	8
Analytical Chemistry I (CHM 3120C)	4
Physics (PHY 2053, 2053L, 2054, 2054L)	10
Mathematics: Calculus* (MAC 3311)	4
Animal Science: Introduction to Animal Science (ASG 3003)	4
ASG 3402C Principles of Animal Nutrition and Feeding	4
Humanities (HUM 2210; HUM 2220; HUM 2230, 2410 or 2420	9**
Social Science (SSI 2110, SSI 2120)	6
English (ENC 1170 and ENC 1419	6
Electives	8-12
(e.g., Agriculture, Computer Science, Economics, Humanities, Journalism, Political Science, Psychology, Social Sciences, Statistics, etc.)	Total 90

*Trigonometry and Algebra at the high school or college level are required for admission to courses in Calculus.

**Six semester credits will be accepted if taken as a requirement for an Associate of Arts degree.

Because of the rigid course requirements, most students require somewhat more than two years to complete this curriculum. Also, since admission to Veterinary School is competitive, students usually need to make considerably more than the minimum grade point average of 2.75.

Pre-veterinary students should consult the Dean of the College of Agriculture before registering for the pre-veterinary curriculum.

Students who will have completed the pre-veterinary requirements in June can be considered for admission in the Fall of the same year. The Office of Admissions at the College of Veterinary Medicine should be contacted early in the Fall term of the year preceding anticipated admission.

AGRICULTURAL ENGINEERING

BACHELOR OF SCIENCE IN ENGINEERING (Agricultural Engineering)

The Agricultural Engineering curriculum is offered cooperatively by the College of Agriculture and the College of Engineering. Students in this major receive basic training in engineering and agriculture so that they are prepared to solve the specialized and unique engineering problems of agricultural production and processing systems and the management and conservation of agricultural land and water resources. Since engineering problems in agriculture relate to biological production and processing of biological products, training in agricultural and biological courses is obtained Students desiring careers in Agricultural Engineering will register in the College of Engineering. See College of Engineering for curriculum.

AGRICULTURAL AND EXTENSION EDUCATION

The Agricultural and Extension Education curriculum is designed to prepare students for careers in agricultural education and the cooperative extension service. Students majoring in this department have a common core curriculum which combines courses in technical agriculture, professional education, and/or extension methodology. The department chairperson or one of the departmental advisers will advise students majoring in this department in the selection of electives and requirements to meet the students' career goals.

The agricultural education (teaching) program provides the student with the basic courses for teacher certification in Florida. In addition to these courses, a graduate must still apply to the State Department of Education for certification. Each applicant who applies for a full-time Florida teaching certificate shall be required to present a passing score on each subtest of the Florida Teacher Certification Examination as part of the requirements to establish eligibility for certification.

Students wishing to enroll in AEE 4942 "Agricultural and

Extension Education Practicum" (teaching internship) must meet the following criteria:

1. Advanced senior standing.
2. Completion of EDF 4210 or equivalent, speech and 16 hours of professional education in agricultural education.
3. A "C" average (2.0) or better.
4. A "C" average (2.0) or better, in all professional education courses required in the area of specialization.
5. Grades of less than "C" in Agricultural Education courses will not be accepted.
6. Score a total score of at least 835 on the Scholastic Aptitude Test (SAT) or a composite score of 17 or above on the American College Testing Program (ACT).

Students wishing to enroll in AEE 4943 "Agricultural Extension Practicum" (extension internship) must meet the following criteria:

1. Advanced senior standing.
2. A "C" average (2.0) or better.
3. A "C" average (2.0) or better in all professional education courses required in the area of specialization.
4. Completion of the following courses:
   a. AEE 3313
   b. AEE 4424
   c. AEE 3200
   (b and c may be modified with approval of departmental chairperson)

Assignment to an internship center is an involved process and is not taken lightly. Every consideration is given to student requests. However, applicants are specifically NOT guaranteed assignment to their home county, to the immediate and general vicinity of the campus or to a given center on request. Assignments will be made only to those centers indicated at time of application. Submission of an application by a candidate constitutes an agreement to accept assignment in the center where it is determined that the objectives of the internship program can best be achieved. Failure to accept an assignment negotiated by Department personnel relieves the Department of any further responsibility to provide internship experiences and courses for the candidate.

The student completing this program will be required to satisfy the College of Agriculture core curriculum requirements.

All students will take a basic skills assessment examination while enrolled in AEE 3323. This examination includes sections on mathematics, reading and writing. A student must have a successful score on all sections of the basic skills assessment examination prior to admission to the teaching internship experience.

Departmental Requirements — 28 credits

	Credits
*AEE 3323 Development & Philosophy of Agricultural Education	3
*AEE 3200 Instructional Techniques in Agricultural Education	3
*AEE 4504 Organization of Agricultural Education Programs	3
*AEE 4224 Special Methods in Teaching Vocational Agriculture	3
*AEE 4227 Laboratory Practices in Teaching Agricultural Ed	2
*AEE 4424 Agricultural Youth Programs	3
*EDF 3135 The Adolescent (or equivalent)	3
*AEE 4942 Agricultural and Extension Practicum	4-8
AEE 4943 Agricultural Extension Practicum	4-8
AEE 4624 Career and Prevocational Education in Agriculture	2
AEE 3313 Development and Role of Extension Education	3
AEE 4906 Individual Work in Agricultural & Extension Education	1-5

*Other Requirements and Electives — 36 credits***

	Credits
MAG 3220 Agricultural Mechanics I	3
MAG 4225 Agricultural Mechanics II	3
AEB 3133 Farm Firm Management	3
AEB 3133L Farm Firm Management Lab	1
ASG 3003 Introduction to Animal Science	4
AGR 3210 Field Crop Science	3
or	
AGR 4231 Forage Science and Range Management	4
SOS 3022 General Soils	4
ENY 3005 Principles of Entomology	2
ENY 3006 Principles of Entomology Lab	1
ORH 3008 Introduction to Residential Horticulture	3
***Electives in Agriculture	9-10

*The student planning to qualify to teach in the public schools will complete a minimum of 28 semester hours from the above list of professional courses. The courses indicated by an asterisk (*) are required. The curriculum for students interested in extension education will be planned by a departmental counselor.

**Substitutions must be approved by the chairperson of Agricultural and Extension Education.

***To be planned by department advisers

AGRONOMY

Agronomy students receive scientific and technical instruction in the various aspects of field and forage crop production and utilization as well as in genetics and plant breeding. A minimum of 64 total credits is required. A specialization in Pest Management and Plant Protection is available. Students interested in an Agronomy major should contact the Department of Agronomy for information early in their academic career.

Plant Science Core Requirements—29 Credits

	Credits
AGR 3303 Genetics	3
BCH 3023 Elementary Organic and Biological Chemistry	4
BOT 3503C Introductory Plant Physiology	3
BOT 3503L Introductory Plant Physiology Laboratory	2
ENY 3005 Principles of Entomology	2
ENY 3006L Principles of Entomology Laboratory	1
PLP 3002 Fundamentals of Plant Pathology	4
PLS 3221 Plant Propagation	2
PLS 3221L Plant Propagation Laboratory	1
SOS 3022C General Soils	4
PLS 4601 Weed Science	3

Departmental Requirements—13 Credits

	Credits
AGR 3210 Field Crop Science	3
AGR 4931 Agronomy Seminar	1
Electives in Agronomy	9

Approved electives—22 credits

ANIMAL SCIENCE

The curriculum in Animal Science meets the educational requirements for the Bachelor of Science degree. Animal Science is designed to give students a foundation in the basic sciences and fundamental training in the various phases of the beef cattle, swine, horse, sheep and meat industries. Early in their college planning, students should discuss the programs and their implications with the Department Chairman or his counseling representatives.

	Credits
Departmental Requirements	20
Other Requirements and Electives	44
Total	64

Departmental Requirements

ANS 3934 Junior Seminar	1
ASG 3003C Introduction to Animal Science	4
ASG 3402C Principles of Animal Nutrition and Feeding	4
ASG 4931 Seminar	1

Minimum of 10 additional Department Credits selected from the following courses:

ASG 3113 Principles of Animal Breeding	3

ANS 3612C Evaluation and Utilization of Meat Animals and Carcasses	4
ANS 4234C Horse Enterprise Management	3
ANS 4242C Beef Cattle Science and Range Management	4
ANS 4264C Swine Production	2
ANS 4274C Sheep Production	2

Other Requirements and Electives

AEB 3133 Farm Firm Management	3
AEB 3133L Farm Firm Management Laboratory	1
AGR 3303 Genetics	3
AGR 4231C Forage Science and Range Management	4
BCH 3023 Elementary Organic and Biological Chemistry	4
MCB 3020C Basic Biology of Microorganisms	4
SOS 3022C General Soils	4
VES 3202C Anatomy and Physiology	4
Free Electives	17

Students are encouraged to elect additional courses in Science, Technology, Economics, and Business relating to a career interest.

BOTANY

A major in botany is offered through the College of Agriculture. Students should consult with the Undergraduate Coordinator for curriculum. (See Botany, College of Liberal Arts and Sciences for course listing.)

DAIRY SCIENCE

The two curricula give broad foundations in science and technology of the dairy industry. Students should consult with the chairman or departmental adviser for assistance in choosing the curriculum and selecting electives.

CURRICULUM I — DAIRY SCIENCE

This is designed primarily for students interested in dairy production, pre-veterinary medicine or post-graduate study.

Departmental Requirements—18 Credits

	Credits
DAS 3211 Dairy Cattle Management	2
ASG 3402C Principles of Animal Nutrition and Feeding	4
DAS 4411 Dairy Cattle Nutrition	3
DAS 4510 Physiology of Lactation or ASG 4334 Reproduction in Farm Animals	3

Minimum of 6 additional Departmental Credits selected from the following courses:

	Credits
DAS 3214 Dairy Cattle Evaluation	1
DAS 4213 Dairy Management Techniques	1-4
DAS 4510 Physiology of Lactation	3
DAS 4614 Dairy Technology	4
DAS 4905 Problems in Dairy Science	1-4
DAS 4941 Practical Work Experience in Dairy Science	1-4
ASG 4334 Reproduction in Farm Animals	3
ASG 4992 Dairy Judging	1

Other Requirements and Electives—46 Credits

	Credits
AEB 3133 Farm Firm Management	3
AEB 3133L Farm Firm Management Laboratory	1
AGR 3303 Genetics	3
AGR 4231 Forage Science and Range Management	4
ASG 3003 Introduction to Animal Sciences	4
BCH 3023 Elementary Organic & Biological Chemistry	4
MCB 3020C Basic Biology of Microorganisms	4
VES 3202C Anatomy & Physiology of Domestic Animals	4
Electives	19

CURRICULUM II — DAIRY MANAGEMENT

This is designed primarily for students interested in managing dairies or dairy enterprises, or careers in allied agribusiness.

Departmental Requirements—18 Credits

DAS 3211 Dairy Cattle Management	2
ASG 3402C Principles of Animal Nutrition and Feeding	4
DAS 4411 Dairy Cattle Nutrition	3
DAS 4510 Physiology of Lactation or ASG 4334 Reproduction in Farm Animals	3

Minimum of 6 additional Departmental Credits selected from the following courses:

	Credits
DAS 3214 Dairy Cattle Evaluation	1
DAS 4213 Dairy Management Techniques	1-4
DAS 4510 Physiology of Lactation	3
DAS 4614 Dairy Technology	4
DAS 4905 Problems in Dairy Science	1-3
DAS 4941 Practical Work Experience in Dairy Science	1-3
ASG 4334 Reproduction in Farm Animals	3
ASG 4992 Dairy Judging	1

Other Requirements and Electives—46 Credits

	Credits
ACC 2001 Introduction to Accounting	5
ACC 2301 Elementary Managerial Accounting	3
AEB 3111 Computers & Linear Programming for Agriculture	2
AEB 3133 Farm Firm Management	3
AEB 3133L Farm Firm Management Laboratory	1
AGR 4231 Forage Science and Range Management	4
ASG 3003 Introduction to Animal Sciences	4
BCH 3023 Elementary Organic & Biological Chemistry	4
MAC 2233 Calculus for Economics & Business or MAC 3311 Analytic Geometry & Calculus I	4
VES 3202C Anatomy & Physiology of Domestic Animals	4
Electives	12

ENTOMOLOGY & NEMATOLOGY

Entomology and nematology are biological sciences dealing with two principal groups of Invertebrate animals. The curricula are designed to give basic training in entomology and nematology and specialized programs in various areas of these two sciences.

CURRICULUM I—GENERAL ENTOMOLOGY

Departmental Requirements — 20 Credits

	Credits
ENY 3005 Principles of Entomology	2
ENY 3006L Principles of Entomology Laboratory	1
or	
ENY 3004 General Entomology	3
ENY 3931 Undergraduate Seminar	1
ENY 4353 Insect Physiology and Morphology	3
ENY 4201 Insect Ecology, Behavior, and Systematics	3
ENY 4161 Insect Identification	3
ENY Electives	7

Other Requirements and Electives—38 Credits

BCH 3023 Organic & Biochemistry or equivalent	4
Electives in Agriculture and/or Biological Sciences	21
Suggested Courses: AGR 3303, ZOO 3203	
Approved Electives	19

For the Pest Management and Plant Protection Specialization, students must consult the department chairman for approved courses.

CURRICULUM II—PEST CONTROL AND BUSINESS

A program for a specialty in urban entomology and pest control. Students are trained in insect control, plant disease

control, and weed control with special reference to problems in and around residential and other buildings. Trainees will be prepared to take the state certification examinations.

Since these pest problems are serviced by private pest control companiees, considerable emphasis is given to business management so that trainees are prepared for administrative duties as well.

Department of Entomology & Nematology Requirements—16 Credits

	Credits
ENY 3005 Principles of Entomology	2
ENY 3006L Principles of Entomology Laboratory	1
ENY 4353 Insect Physiology and Morphology	3
ENY 4660 Medical and Veterinary Entomology	3
ENY 4161 Insect Identification	3
ENY 3551 Household Insects	1
ENY 3515 Ornamental and Turf Insects	1
PMA 3010 Fundamentals of Pest Management	2

Business Requirements

ACC 2001 Elementary Financial Accounting	5
BUL 4112 Business Law (Contracts)	4
BUL 4305 Business Law (Property)	3
MAN 3010 Principles of Management	3
or	
MAR 3023 Principles of Marketing	3
or	
BCN 1210 Construction Materials	3

General Agriculture Requirements

AEB 3133 Farm Firm Management	3
AEB 3133L Farm Firm Management Laboratory	1
AEB 4421 Agricultural Labor Economics	2
PLP 3002C Fundamentals of Plant Pathology	4
PLP 4102 Principles of Plant Disease Control	3
PLS 4601 Weed Science	3
ORH 3513 Ornamental Plant Identification	3
ORH 4221 Turfgrass Culture	4

Other Requirements and Electives

BCH 3023 Elementary Organic and Biochemistry	4
Approved electives	6

FOOD AND RESOURCE ECONOMICS

Six curricula are offered by the Department of Food and Resource Economics. The curriculum selected by the student will depend upon the nature of his or her interest in the field. Students should consult the chairman of the department or the departmental adviser for guidance in making their choice of a curriculum and for approval of electives.

CURRICULUM I — FOOD AND RESOURCE ECONOMICS

This curriculum is designed for those students interested primarily in training as professional agricultural economists or in preparing for graduate study.

Departmental Requirements—26 Credits

	Credits
AEB 3103 Principles of Food and Resource Economics	4
AEB 3133 Farm Firm Management	3
AEB 3133L Farm Firm Management Laboratory	1
AEB 3300 Agricultural Marketing	3
AEB 3503 Computers and Data Analysis for Agriculture	2
AEB 4224 Public Policy in Agriculture	3
AEB 4324 Production Decisions of Agricultural Firms	3
AEB 4334 Agricultural Price Analysis and Consumer Behavior	3
AEB 4511 Quantitative Analysis in Food and Resource Economics	3
AEB 4935 Food and Resource Economics Senior Seminar	1

Other Requirements and Electives—38 Credits

ACC 2001 Introduction to Accounting	5
MAC 3223 and 3224 Survey of Calculus 1 and 2	6
ECO 4101 Microeconomic Theory	3
ECO 4205 Macroeconomic Theory	3
STA 3023 Introduction to Statistics	3
Free and Approved Electives	18

CURRICULUM II — AGRICULTURAL BUSINESS MANAGEMENT

This curriculum is designed for those students interested in administrative and service aspects of agricultural or related businesses.

Departmental Requirements—29 Credits

	Credits
AEB 3103 Principles of Food and Resource Economics	4
AEB 3133 Farm Firm Management	3
AEB 3133L Farm Firm Management Laboratory	1
AEB 3300 Agricultural Marketing	3
AEB 3503 Computers and Data Analysis for Agriculture	2
AEB 4224 Public Policy in Agriculture	3
AEB 4334 Agricultural Price Analysis and Consumer Behavior	3
AEB 4511 Quantitative Analysis in Food and Resource Economics	3
AEB 4935 Food and Resource Economics Senior Seminar	1
Electives in Food and Resource Economics*	6

*AEB 3111 may not be counted as a Food and Resource Economics elective.

Other Requirements and Electives—35 Credits

ACC 2001 Introduction to Accounting	5
MAC 3223 Survey of Calculus 1	3
ECO 3100 or ECO 4101 Microeconomic Theory	3
ECO 3251 or ECO 4205 Macroeconomic Theory	3
STA 3023 Introduction to Statistics	3
Free and Approved Electives	18

CURRICULUM III — CO-MAJOR WITH OTHER DEPARTMENTS

Students majoring in other departments or colleges who feel the need for a better understanding of the economics of agriculture and the relationship of agriculture to the general economy can also take a Co-Major in Food and Resource Economics.

Departmental Requirements—21 Credits

	Credits
AEB 3103 Principles of Food and Resource Economics	4
AEB 3133 Farm Firm Management	3
AEB 3300 Agricultural Marketing	3
AEB 3503 Computers and Data Analysis for Agriculture	2
AEB 4224 Public Policy in Agriculture	3
AEB 4334 Agricultural Price Analysis and Consumer Behavior	3
AEB 4511 Quantitative Analysis in Food and Resource Economics	3

Other Requirements and Electives—43 Credits

MAC 3223 Survey of Calculus 1	3
Free and Approved Electives	40

CURRICULUM IV — HUMAN RESOURCE AND COMMUNITY ECONOMICS

This curriculum is designed to train professionals to work on problems affecting people and their communities.

Departmental Requirements—24 Credits

	Credits
AEB 3103 Principles of Food and Resource Economics	4
AEB 3503 Computers and Data Analysis for Agriculture	2
AEB 4224 Public Policy in Agriculture	3
AEB 4511 Quantitative Analysis in Food and Resource Economics	3
AEB 4935 Food and Resource Economics Senior Seminar	1
At least 3 credits from the following	3
AEB 4324 Production Decisions of Agricultural Firms	
AEB 4334 Agricultural Price Analysis and Consumer Behavior	
At least 5 credits from the following	5

ECO 4504 Public Finance
AEB 4421 Agricultural Labor Economics
AEB 4444 Regional Economics and Policy Analysis
AEB 4726 Income and Employment of Rural People
Electives in Food and Resource Economics* 3
*AEB 3111 may not be counted as a Food and Resource Economics elective.

Other Requirements and Electives—40 Credits

ACC 2001 Introduction to Accounting 5
MAC 3223 Survey of Calculus 1 3
ECO 3100 or ECO 4101 Microeconomic Theory 3
ECO 3251 or ECO 4205 Macroeconomic Theory 3
STA 3023 Introduction to Statistics 3
Free and Approved Electives 23

CURRICULUM V — FOOD MARKETING AND DISTRIBUTION

This curriculum is designed for students interested in employment at the managerial level in the Food Industry.

Departmental Requirements—21 Credits

	Credits
AEB 3103 Principles of Food and Resource Economics	4
AEB 3300 Agricultural Marketing	3
AEB 3503 Computers and Data Analysis for Agriculture	2
AEB 4314 Terminal Markets and Commodity Exchanges	1
AEB 4334 Agricultural Price Analysis and Consumer Behavior	3
AEB 4342 Food Distribution Management	4
AEB 4511 Quantitative Analysis in Food and Resource Economics	3
AEB 4935 Food and Resource Economics Senior Seminar	1

Other Requirements and Electives — 43 Credits

ACC 2001 Introduction to Accounting 5
MAC 3223 Survey of Calculus 1 3
ECO 3100 or ECO 4101 Microeconomic Theory 3
ECO 3251 or ECO 4205 Macroeconomic Theory 3
STA 3023 Introduction to Statistics 3
Free and Approved Electives 26

CURRICULUM VI — NATURAL RESOURCE AND ENVIRONMENTAL ECONOMICS

This curriculum is designed for students interested in natural resources and environmental quality.

Departmental Requirements—25 Credits

	Credits
AEB 3103 Principles of Food and Resource Economics	4
AEB 3413 Economics of Environmental Quality	3
AEB 3503 Computers and Data Analysis for Agriculture	2
AEB 4224 Public Policy in Agriculture	3
At least 3 credits from the following	3
AEB 4324 Production Decisions of Agricultural Firms	
AEB 4334 Agricultural Price Analysis and Consumer Behavior	
AEB 4434 Land and Water Economics	3
AEB 4511 Quantitative Analysis in Food and Resource Economics	3
AEB 4935 Food and Resource Economics Senior Seminar	1
Electives in Food and Resource Economics*	3

*AEB 3111 may not be counted as a Food and Resource Economics elective.

Other Requirements and Electives — 39 Creditss

ACC 2001 Introduction to Accounting 5
MAC 3223 Survey of Calculus 1 3
ECO 3100 or ECO 4101 Microeconomic Theory 3
ECO 3251 or ECO 4205 Macroeconomic Theory 3
STA 3023 Introduction to Statistics 3
Free and Approved Electives 22

FOOD SCIENCE AND HUMAN NUTRITION

The Food Science and Human Nutrition Department offers two curricula, Basic Food Science and Nutrition and Dietetics. Students in these curricula take a common core of courses, required courses for their area of concentration, and electives. Students should consult the departmental advisers for guidance and approval of electives.

The Basic Food Science curriculum is designed to utilize the principles of chemistry, biochemistry, microbiology, engineering, other basic sciences, and management in applications related to the manufacturing, processing, preserving, distribution and packaging of food and food products for immediate or future utilization. General areas of study include: chemical, microbiological, and nutritional properties of raw and processed foods; role of processing and engineering in modifying food properties; food deterioration and spoilage; role of additives and other ingredients; food safety; food fermentation and new food product innovations. An opportunity is offered for students to intensify in areas of specialization such as general food processing, citrus processing, seafood processing, food chemistry, food engineering, food microbiology, management, food marketing, nutrition, public health and consumer protection. Cooperative programs are available with the appropriate commodity departments for students desiring to specialize in dairy, meat, poultry or fruit and vegetable processing. An excellent foundation for graduate study and research in Food Science or related fields is also provided.

The Nutrition and Dietetics curriculum is designed to give students a foundation in nutrition and, if desired, for a general dietetics internship program upon graduation. The Nutrition and Dietetics curriculum provides an excellent undergraduate education for students planning to enter a graduate program in human or animal nutrition. Students preparing for the professions of medicine, dentistry, or veterinary medicine normally complete the minimum program and additional courses chosen with the help of their advisers.

Department Core Requirements—30 Credits

	Credits
HUN 2201 Fundamentals of Human Nutrition	3
FOS 3042 Introductory Food Science	3
FOS 4311C Food Chemistry	4
FOS 4222C Food Microbiology	4
FOS 4321C Food Analysis	4
FOS 4931 Food Science and Human Nutrition Seminar	1
CHM 3200 Organic Chemistry	4
MCB 3020C Basic Biology of Microorganisms with Laboratory	4
STA 3023 Introduction to Statistics	3

CURRICULUM I — BASIC FOOD SCIENCE

Additional requirements and electives — 34 Credits

	Credits
FOS 4427C Principles of Food Processing	4
FOS 4722C Statistical Quality Control and Sensory Evaluation of Foods	2
FOS 4731 Government Regulations and the Food Industry	1
MAC 3311 Analytic Geometry & Calculus I	4
MAG 4062C Principles of Food Engineering	4

In addition, students will be required to complete any two of the following:

FOS 4522C Seafood Technology	3
FOS 4551C Fruit, Vegetable and Citrus Processing	3
ANS 4635C Meat Processing	3
DAS 4614 Dairy Technology	4
PSE 4611 Poultry Products Technology	3
Electives	12-13

CURRICULUM II — NUTRITION AND DIETETICS

Additional requirements and electives — 34 Credits

	Credits
DIE 4125 Food Systems Management	3
DIE 4244 Nutrition and Disease	3
HUN 3221 Introduction to Human Nutrition	3
HUN 3246 Agricultural and Nutritional Biochemistry	3
HUN 4241 Human Nutrition	3
APB 3203 Basic Anatomy & Physiology	4
EDF 4210 Educational Psychology	3
MAN 3010 Principles of Management	3

MAN 3151 Foundations of Organizational Behavioral 3
SOC 2000 Principles of Sociology 3

FOREST RESOURCES AND CONSERVATION

(For Bachelor of Science Degree Requirements, See Listings under School of Forest Resources and Conservation.)

FRUIT CROPS

The Department of Fruit Crops at the University of Florida in Gainesville offers an outstanding undergraduate program for students planning to enter the citrus and other fruit industries in the state. Job opportunities in production management, agricultural sales and technical representation, extension and many other areas are available to our graduates.

Students receive a broad foundation in the science and technology of fruit production, handling and marketing. Core lecture and laboratory courses in Entomology, Biochemistry, Plant Pathology, Soils, Plant Physiology, Plant Propagation and Genetics are taken.

For graduation, the student completes certain core courses, a group of required departmental courses, specified curriculum electives (chosen to meet the requirements of a specialization within Fruit Crops) and other electives chosen in consultation with the departmental counselor. Programs of study can be designed to allow specialization in one of 2 areas:

1. Production Management/Science
2. Business

Core courses required of all Fruit Crops students in either specialization include the following:

	Credits
AGR 3303 Genetics	3
BCH 3023 Elementary Organic and Biological Chemistry	4
BOT 3503 Introductory Plant Physiology	3
BOT 3503L Introductory Plant Physiology Laboratory	2
ENY 3005 Principles of Entomology	2
ENY 3006L Principles of Entomology Laboratory	1
PLP 3002 Fundamentals of Plant Pathology	4
PLS 3221 Plant Propagation	2
PLS 3221L Plant Propagation Laboratory	1
SOS 3022C General Soils	4

Departmental Requirements — 15 Credits

FRC 3212 Introduction to Citrus Culture	3
FRC 4223 Citrus Production	3
FRC 4224L Field Production Practices in Fruit Crops	2
FRC 4612C Citrus Maturity and Packinghouse Procedures	4
FRC 4931 Undergraduate Seminar in Fruit Crops	1
FRC 4933 Citrus Production and Harvesting Management	2

PRODUCTION MANAGEMENT/SCIENCE CURRICULUM

Students specializing in Production Management take the core courses, the *required* departmental courses and 10 curriculum electives.

Curriculum Electives

Two electives from *each* group below (Business, Agriculture) must be taken to graduate in Fruit Crops with the Production Management Specialization:

Business	*Credits*
AEB 3133 Farm Firm Management	3
AEB 3133L Farm Firm Management Laboratory	1
MAN 3303 Personnel Management	4
AEB 3300 Agricultural Marketing	4
MAN 3010 Principles of Management	4
AEB 3111 Computers and Linear Programming	4
ACC 2001 Elementary Financial Accounting	4
AEB 4421 Agricultural Labor Economics	2
AEB 3123 Law Applied To Agriculture	3
AEB 3006 Agricultural Commodity Marketing	2

Agriculture	*Credits*
PLS 4601 Weed Science	3
MAG 3732 Water Management	3
SOS 4115 Fertilizers & Soil Fertility	4
ENY 4221 Principles of Insect Control	3
PLP 4102 Principles of Plant Disease Control	3
MAG 3503 Agricultural & Environmental Quality	3
FOS 4451 Fruit & Vegetable Processing	3
MAG 3220 Agricultural Mechanics	3
MAG 3312 Farm Machinery	3
PMA 3010 Fundamentals of Pest Management	2

BUSINESS CURRICULUM

The Business specialization affords interested students an opportunity to pursue in-depth studies into the business aspects of fruit production and marketing. This specialization consists of the core and departmental requirements plus 4 curriculum business electives selected from the list of 9 courses suggested under the Production Management curriculum. The requirement of 2 Agricultural electives is waived for the 2 extra Business courses.

The curricula for the various specializations leave some room for other electives for students without deficiencies. Many fine elective courses are available in Fruit Crops as well as in other departments. Faculty advisers will be able to assist students with selection of the best electives to suit career interests.

MECHANIZED AGRICULTURE

The Mechanized Agriculture curriculum is designed to provide expertise in the application of principles and management of physical systems for improving production agriculture and the handling, processing, and storage of agricultural products. Emphasis is also placed on efficient resource utilization and environmental quality protection in agriculture practices. The technology of mechanized agriculture is complemented with emphasis on agricultural sciences and business management

Students graduating with a degree in Mechanized Agriculture are prepared for careers in one of four general areas (1) operations manager in production agriculture; (2) sales and service representative for agri-business firms; (3) agricultural extension; and (4) specialists with governmental agencies, agricultural organizations, insurance companies, banks, etc. The curriculum is structured to encourage concentration in one of the career areas Concentration is achieved through selection of electives in consultation with the faculty academic adviser.

	Credits
ENC 4260 Advanced Professional Writing	3
Mechanized Agriculture Requirements — 61 Credits	
*MAC 3223 Survey of Calculus I	4
*PHY 2005 Applied Physics	3
*ACC 2001 Elementary Financial Accounting	3
AEB 3133 Farm Firm Management	3
SOS 3022C General Soils	4
ENY 3005 Principles of Entomology	2
ENY 3006L Principles of Entomology Lab	1
Animal Science Requirement (ASG 3003**)	4
Plant Science Requirement (PLS 2031**)	3
MAN 3010 Principles of Management	3
MAR 3023 Principles of Marketing	3
MAG 3732 Water Management	3
MAG 3220 Agricultural Mechanics I	3
MAG 3312 Farm Machinery	3
MAG 4642 Environmental Systems for Agricultural Structures	3
MAG 4062 Principles of Food Engineering	4
MAG 3503 Agricultural and Environmental Quality	3
Approved Electives	9

*Should be taken within first 64 hours
**Or approved alternatives.

MICROBIOLOGY AND CELL SCIENCE

The curriculum is designed to develop fundamental knowledge of bacteria, plant and animal cells, and viruses. It provides a background for pursuing graduate work in microbiology, cell biology, or biochemistry as well as other areas of agricultural sciences. It also provides a background necessary for work in research or diagnostic laboratories, both governmental and industrial. The curriculum also provides a background for entry into the professions of dentistry, medicine and veterinary medicine.

Departmental Requirements — 24 Credits

	Credits
BCH 4313 General Biochemistry and Molecular Biology	3
MCB 3020C Basic Biology of Microorganisms with Laboratory	4
PCB 3136 Eukaryotic Cell Structure and Function	3
MCB, APB, and PCB Electives	14

(BCH 4203 may count toward the 14 credits)
(One laboratory course beyond MCB 3020C is required)

Other Requirements and Electives — 40 Credits

	Credits
CHM 3120 Analytical Chemistry	3
CHM 3120L Analytical Chemistry Laboratory	1
CHM 3210 Organic Chemistry	3
CHM 3211 Organic Chemistry	3
CHM 3211L Organic Chemistry Laboratory	2
PHY 2053 General Physics 1	4
PHY 2053L Laboratory for PHY 2053	1
PHY 2054 General Physics 2	4
PHY 2054L Laboratory for PHY 2054	1
MAC 3311 Analytic Geometry and Calculus 1	4
Electives	14

ORNAMENTAL HORTICULTURE

Students majoring in Ornamental Horticulture may specialize in general ornamental horticulture, ornamental horticultural science, nursery and landscape horticulture, floriculture and foliage, or turfgrass production and maintenance. According to your specialization, you will be assigned an academic adviser to assist in developing a program of course work. Students majoring in ornamental horticulture should complete the following requirements:

*Plant Sciences Core Requirements — 26 Credits**

	Credits
AGR 3303 Genetics	3
BCH 3023 Elementary Organic and Biological Chemistry	4
BOT 3503 Introductory Plant Physiology	3
BOT 3503L Introductory Plant Physiology Laboratory	2
ENY 3005 Principles of Entomology	2
ENY 3006L Principles of Entomology Laboratory	1
PLP 3002 Fundamentals of Plant Pathology	4
PLS 3221 Plant Propagation	2
PLS 3221L Plant Propagation Laboratory	1
SOS 3022C General Soils	4
Departmental Requirements	22-26 credits

ORH 3513 Fundamentals of Ornamental Plant Identification I	3
ORH 3514 Ornamental Plant Identification II	3
ORH 4411 Physiological Aspects of Ornamental Plant Production	3
ORH 4931 Ornamental Horticulture Seminar	1

According to the selected area of specialization, students will take any two of the following four production courses.

ORH 4221 Turfgrass Culture	4
ORH 4255 Principles of Nursery Operations	2
ORH 4263 Production of Floricultural Crops	3
ORH 4275 Commercial Production of Foliage Plants	3

To complete the remaining elective credits students may enroll in any of the available Ornamental Horticulture classes depending on their area of specialization with the exception of ORH 3008 (a non-major course).

SPECIALIZATIONS: Students should declare an area of specialization and complete 13-14 hours from the list of suggested courses.

A. *General Ornamental Horticulture.* This option is designed for those students who do not declare a specific commodity interest area and wish to complete a more generalized program in Ornamental Horticulture. Select from ORH courses except ORH 3008.

B. *Ornamental Horticultural Science.* Students desiring to complete advanced degrees (M.S., Ph.D.) should select this specialization. Accordingly, students will select courses to strengthen and prepare them for graduate school.

	Credits
BCH 4203 Introduction to Intermediary Metabolism	4
BCH 4313 General Biochemistry & Molecular Biology	3
BOT 2710 Practical Plant Taxonomy	3
BOT 3153C Local Flora	2
BOT 3303 Introductory Vascular Plant Morphology	4
BOT 4283 Plant Microtechnique	2
CHM 2043L General Chemistry and Qualitative Analysis	4
CHM 3120C Analytical Chemistry I	4
CHM 3210 Organic Chemistry	3
STA 3023 Introduction to Statistics I	3
CHM 3211 Organic Chemistry	3
CHM 3211L Organic Chemistry	2
MAC 3311 Analytic Geometry and Calculus I	4
MAC 3312 Analytic Geometry and Calculus II	4
MCB 3020C Basic Biology of Microorganisms with Laboratory	4
PCB 3043 Introduction to Ecology	5
PHY 2005 Applied Physics 2	3
SOS 4115 Fertilizers and Associated Soil Reactions	3

C. *Nursery and Landscape Horticulture.* Nursery Management includes the production, storage, and marketing of ornamental trees, shrubs, and vines. Landscape horticulture deals with the location, care and maintenance of ornamental trees, shrubs and vines for the improvement and beautification of man's environment.

	Credits
ORH 3731 Biological Illustrations	3
ORH 3231 Grounds Maintenance	3
ORRH 3534 Relationships of Ornamental Plants to the Urban Environment	2
ORH 3B15 Introduction to Landscape Horticulture	3
ORH 4276 Foliage and Nursery Production Laboratory	2
ORH 4941 Full Time Practical Work Experience	1-3
ORH 4905 Special Topics and Independent Study	1-5

D. *Floriculture and Foliage.* The growing of cut flowers, potted plants, foliage plants and transplants in the greenhouse or field, and the sale of these crops through wholesale commission florists, flower shops and other retail outlets.

	Credits
ORH 3611 Retail Florist Shop Management	3
ORH 3534 Relationship of Ornamental Plants to the Urban Environment	2
ORH 4276 Foliage and Nursery Production Laboratory	2
ORH 4941 Full-Time Practical Work Experience	1-3
ORH 4263L Floriculture Lab I	1
ORH 4905 Special Topics and Independent Study or, ORH 4941 Full-Time Practical Work Experience	1-3
ORH 4280 Orchidology	3

E. *Turfgrass Production and Maintenance.* The production of turfgrass for sod and maintenance of grasses for lawns, golf courses, and recreational areas.

	Credits
ORH 3231 Grounds Maintenance	3
ORH 3534 Relationships of Ornamental Plants to the Urban Environment	2

ORH 4276 Foliage and Nursery Production Laboratory 2
ORH 4941 Full-Time Practical Work Experience 1-3
ORH 4905 Special Topics and Independent Study 1-5
PLS 4601 Weed Science 3
SOS 4115 Fertilizers and Associated Soil Reactions 3
ENY 3701 Principles of Nematology 3
ENY 4221 Principles of Insect Control 5

Electives: Thirteen to eighteen (13-18) hours of electives may be selected to complete your degree program. Suggested areas of coursework can be taken in accounting, economics, fruit crops, vegetable crops, and ornamental horticulture.

*An average grade of 2.0 in ORH courses is required for graduation.

PLANT PATHOLOGY

The curriculum in Plant Pathology permits students to learn the principles of Plant Pathology and their applications to scientific agriculture. The following program is offered for a major in Plant Pathology with specialization in either Agricultural Science or Agricultural Technology. Students must consult the catalog statement for courses approved for the Specialization in Pest Management and Plant Protection.

Departmental Requirements—14-16 Credits

	Credits
PLP 3002 Fundamentals of Plant Pathology	4
PLP 4102 Principles of Plant Disease Control	3
PLP 4931 Seminar in Plant Pathology	1
*BOT 5435 Introductory Mycology	4
*ENY 3701 Principles of Nematology	3
*MCB 3020 Basic Biology of Microorganisms with Laboratory	4
*MCB 4503 General Virology	3
**PLP 4906 Problems in Intermediate Plant Pathology	1 to 4

Other Requirements—24 Credits

	Credits
AGR 3303 Genetics	3
BOT 2011 Plant Diversity	3
BOT 3503 Introductory Plant Physiology	3
BCH 3023 Elementary Organic and Biological Chemistry	4
ENY 3005 Principles of Entomology	2
ENY 3006L Principles of Entomology Laboratory	1
PLS 3221 Plant Propagation	2
PLS 3221L Plant Propagation Laboratory	1
SOS 3022C General Soils	4

Approved Electives—24-26 Credits

*Two of these four courses required.
**Departmental elective

PLANT SCIENCES—General

Students in the General Plant Science curriculum must complete a minimum of 64 credits of course work in the basic and applied plant sciences as indicated below. Electives, including courses for the optional specialization in Pest Management and Plant Protection should be selected with the advice and approval of the assigned Plant Science adviser. Interested students initially should consult the Department of Agronomy.

*Plant Sciences Core Requirements—30 Credits**

	Credits
AGR 3303 Genetics	3
BCH 3023 Elementary Organic and Biological Chemistry	4
BOT 3503 Introductory Plant Physiology	3
BOT 3503L Introductory Plant Physiology Laboratory	2
ENY 3005 Principles of Entomology	2
ENY 3006L Principles of Entomology Laboratory	1
PLP 3002C Fundamentals of Plant Pathology	4
PLS 3221 Plant Propagation	2
PLS 3221L Plant Propagation Laboratory	1
SOS 3022C General Soils	4
PLS 4601 Weed Science	3

*PLS 4601 Weed Science, 3 cr. not required in FRC and ORH.

Approved electives in AGR, FRC, ORH, VEC (with a minimum of 3 credits in each of the four departments)	13
Other approved electives	22

POULTRY SCIENCE

Two curricula are offered by the Department of Poultry Science. Students should consult the Chairman or the departmental adviser for guidance in making their curriculum choice and for approval of electives.

CURRICULUM I—General or Science

This curriculum is designed for those students interested in training in poultry production, pre-veterinary medicine or in preparing for graduate study.

Science Core Requirements — 28 Credits

	Credits
AEB 3133 Farm Firm Management	3
AGR 3303 Genetics	3
ASG 3003 Introduction to Animal Sciences	4
ASG 3403 Principles of Animal Nutrition	4
ASG 4931 Seminar	1
BCH 3023 Elementary Organic and Biological Chemistry or CHM 3210 Organic Chemistry	4
MCB 3020 Basic Microbiology of Microorganism or APB 2170 Applied Microbiology	4
VES 3202 Anatomy and Physiology of Domestic Animals or CHM 3120 Quantitative Analysis	4

Departmental minimum requirements—12 Credits

Students selecting this curriculum are required to take the following Poultry Science courses:

PSE 3211C Incubation, Brooding and Rearing	3
PSE 4223 Poultry Management	3
PSE 4411C Poultry Nutrition	3
PSE 4611 Poultry Products Technology	3
Electives (free and approved)	24

CURRICULUM II—Management or Business

This curriculum is designed for those students who plan a career in any of various phases of the poultry or allied industries with major emphasis on the management or business aspect.

Management Core Requirements — 30 Credits

	Credits
ACC 2001 Elementary Financial Accounting	5
AEB 3111 Computers and Linear Programming for Agriculture	2
AEB 3133 Farm Firm Management	3
AEB 3133L Farm Firm Management Laboratory	1
AGR 3303 Genetics	3
ASB 3003 Introduction to Animal Sciences	4
ASG 3403 Principles of Animal Nutrition	4
BCH 3023 Elementary Organic and Biological Chemistry	4
VES 3202 Anatomy and Physiology of Domestic Animals	4

Departmental Requirements — 12 Credits

Students are required to take the following Poultry Science courses:

PSE 3211 Incubation, Brooding and Rearing	3
PSE 4223 Poultry Management	3
PSE 4411 Poultry Nutrition	3
PSE 4611 Poultry Products Technology	3
Electives (free and approved)	22

SOIL SCIENCE

The Department of Soil Science offers three curricula (Soil Science, Soil Technology, and Soil Conservation and Land-Use Planning) each of which is designed to meet the specific needs of the individual. Students should consult the chairman of the department or the departmental adviser for approval of electives in their field of specialization.

SOIL SCIENCE

This program of study emphasizes the fundamental sciences. Students following this curriculum can qualify for graduate study and research in Soil Fertility, Soil Chemistry, Soil Microbiology, Soil Physics, or Soil Genesis and Classification by a careful selection of elective courses.

Departmental Requirements — 18 Credits

	Credits
SOS 3022 General Soils	4
SOS 4404 Soil Chemistry	3
SOS 4303 Soil Microbiology	3
SOS 4715 Soil Genesis & Classification	3
SOS 4602 Soil Physics	3
Electives in Soil Science	2

*Other Requirements and Electives — 46 Credits**

	Credits
GLY 2015 Physical Geology	3
APB 2170 Microbiology	4
BOT 3503-3503L Elementary Plant Physiology with Laboratory	5
MAC 3311 Analytic Geometry and Calculus I	4
PHY 2053 & 2054 General Physics with Laboratories	10
CHM 3120-3120L Analytical Chemistry 1 with Laboratory	4
*Free and Approved Electives	16

*Suggested electives: CHM 3200-3200L, CHM 3400-3401 or CHM 4410-4411-4412, ENY 3005, ENY 3006, ENY 3701, GLY 4200, GLY 4210, GLY 4301, GEO 3200, MAC 3312, PLP 3002-PLP 3003L, SOS 3215, SOS 4115, SOS 4231, SOS 4718, SOS 4732, SOS 4905.

SOIL TECHNOLOGY

This program of study is designed primarily for the student who desires employment in one of the many applied fields of agriculture after obtaining the bachelor's degree. By a careful selection of electives one may prepare for a career according to his or her specific interests.

Departmental Requirements — 19 Credits

	Credits
SOS 3022C General Soils	4
SOS 4404C Soil Chemistry	3
SOS 4303 Soil Microbiology	3
SOS 4115 Fertilizers & Soil Fertility	3
Electives in Soil Science	6

Other Requirements and Electives — 45 Credits

	Credits
MAG 3732 Water Management	3
AGR 4231 Forage Science and Range Management	4
FRC 3212 Intro. to Citrus Culture	3
APB 2170 Microbiology	4
ENY 3005-3006L Principles of Entomology with Laboratory	3
PLP 3002 Basic Plant Pathology	4
*Free and Approved Electives	24

*Suggested Electives: AEB 3133, ASG 3003, CHM 3120, ENC 3343, GEO 3200, GLY 2015, GLY 2100, PLS 2031, PLS 3221-3221L, SOS 3215, SOS 4231, SOS 4602, SOS 4715, SOS 4718, SOS 4732, SOS 4905.

SOIL CONSERVATION AND LAND-USE PLANNING

This curriculum is recommended for students desiring a fundamental knowledge of soils requisite to their conservation and the formulation of sound land-use decisions for a wide variety of purposes to meet the needs of our rapidly expanding population. These include agricultural, industrial, urban, and recreational developments. Employment opportunities exist with federal, state, and local governmental as well as private organizations involved in building and highway construction, land appraisal and assessment, land zoning, and other activities related to ecology, environment, sanitation, and land-use capability.

Departmental Requirements — 18 Credits

	Credits
SOS 3022C General Soils	4
SOS 3215 Agricultural and Environmental Quality	3
SOS 4231 Soils and Land Use	3
SOS 4715 Soil Genesis and Classification	3
SOS 4732 Soil Survey	3
SOS 4718 Soils of Florida	2

Other Requirements and Electives — 46 Credits

	Credits
MAG 3732 Water Management	3
GLY 2015 Physical Geology	3
GEO 3200-3200L Physical Geography with Laboratory	4
PCB 3043 Introduction to Ecology	3
ENV 3003 Environmental Quality and Man	3
ORH 3534 Relationship of Ornamental Plants to Urban Environment	2
REE 3043 Real Estate Analysis	4
*Free and Approved Electives	24

*Suggested Electives: AGG 2501, AEB 3103, AEB 3123, ANT 2410, ANT 4304, BOT 3800, COC 3400, FOR 4621, FOS 2001, GEO 3370, GEO 3430, GLY 4155, MET 1010, PUP 3204, SOC 3310, STA 3023, SOS 4115, SOS 4303, SOS 4404, SOS 4602, SOS 4905.

STATISTICS

A major in Statistics is offered through the College of Agriculture. Students should consult with the Undergraduate Coordinator for curriculum. (See College of Liberal Arts and Sciences for requirements)

VEGETABLE CROPS

The major in Vegetable Crops is designed to give students foundation of basic plant science and the principles of production and marketing of vegetables, which will prepare them for primary employment in any phase of the specialized vegetable industry.

Plant Sciences Core Requirements—29 Credits

	Credits
AGR 3303 Genetics	3
BCH 3023 Elementary Organic and Biological Chemistry	4
BOT 3503C Introductory Plant Physiology	3
BOT 3503L Introductory Plant Physiology Laboratory	2
ENY 3005 Principles of Entomology	2
ENY 3006L Principles of Entomology Laboratory	1
PLP 3002 Fundamentals of Plant Pathology	4
PLS 3221 Plant Propagation	2
PLS 3221L Plant Propagation Laboratory	1
PLS 4601 Weed Science	3
SOS 3022C General Soils	4

Departmental Requirements—15 Credits

	Credits
VEC 3224 Commercial Vegetable Production I	4
VEC 4226 Commercial Vegetable Production II	3
VEC 4410 Vegetable Crops Nutrition	2
VEC 4432 Growth and Development of Vegetable Crops	3
VEC 4452 Principles of Postharvest Horticulture	3
Approved Electives	20

Elective hours, chosen with the advice of departmental advisers, enable students to follow an agricultural science or business specialization.

For the Pest Management and Plant Protection Specialization, students must consult the Undergraduate Coordinator for approved courses.

ONE WAY DIRECTIONAL SYSTEM

College of Architecture

GENERAL STATEMENT

Established in 1925, the College of Architecture has grown to be one of the largest design and construction institutions in the country. A unique aspect of the college is the scope of its professional disciplines which, at the undergraduate level, include: Architecture, Building Construction, Interior Design, and Landscape Architecture. Graduate programs are available through the Department of Urban and Regional Planning, the School of Building Construction, and the Department of Architecture. The architecture graduate program includes options in Design, History, Preservation, Structures, and Environmental Technologies.

The college contributes to community, state, regional, and national efforts to conserve and improve the quality of the natural and built environments through research projects directed by the Florida Architecture and Building Research Center, (FABRIC) and the Research and Education Center for Architectural Preservation, (RECAP). The college has established research and training programs of national prominence through the Preservation Institute: Nantucket and the Preservation Institute: Caribbean. The latter program, directed by RECAP, is part of the College of Architecture's drive to develop new links with institutions in the Caribbean Basin and Latin America.

APPLICATION DEADLINES — GENERAL

The programs in Architecture, Interior Design and Landscape Architecture will admit students for third year professional coursework in the Fall semester only. Applications shall be reviewed in accordance with the deadlines stated below for the students starting at this level.

Applications for students needing to complete some or all of the preprofessional requirements shall be reviewed for the Fall, Spring, or Summer semesters in accordance with the deadlines stated in the calendar at the front of this catalog.

The School of Building Construction will admit students for third year professional coursework in the Fall and Spring semesters. Applications shall be reviewed in accordance with the deadlines stated below for students starting at this level. The School of Building Construction will not admit students for the Summer term.

APPLICATION DEADLINES — FALL SEMESTER

Department of Architecture

Deadline for completion of all application procedures, including departmental requirements and receipt of official credentials for the program in Architecture is February 1, 1981. Applicants unable to meet this deadline may apply on a space available basis.

Building Construction

Deadlines for completion of all application procedures, including School requirements and receipt of official credentials is March 2, 1982. Applicants unable to meet this deadline may apply on a space available basis.

Interior Design

Deadline for completion of all application procedures, including departmental requirements and receipt of official credentials is May 13, 1982. Applicants unable to meet this deadline may apply on a space available basis.

Landscape Architecture

Deadline for completion of all application procedures, including departmental requirements and receipt of official credentials is May 13, 1982. Applicants unable to meet this deadline may apply on a space available basis.

APPLICATION DEADLINES — SPRING SEMESTER

Deadlines for completion of all application procedures, including School requirements and receipt of official credentials for the School of Building Construction is October 1, 1982. Applicants unable to meet this deadline may apply on a space available basis.

LIBRARY FACILITIES

The Architecture and Fine Arts Library and the Visual Resources Center are the largest collections of their kind in the Southeast. Together they provide books, government documents, American and foreign periodicals, subject files, micro-text, slides, photographs, reproductions and other materials for undergraduate and graduate studies. The AFA Library also maintains its own Rare Book Collection for scholarly research. Services include professional reference service ready to assist in guidance and searches for information. Students may use additional resources in the University Libraries system.

ADVISEMENT

Students planning to major in any program of study in the College of Architecture should see the Director of Student Services or the proper Upper Division departmental chairman, program director or adviser as soon as possible in their college program.

Each Upper Division student in the College is assigned a faculty member as an adviser who remains as that student's adviser through graduation. This adviser is available to the student as needed and can assist with academic processes and personal problems as well. The students are encouraged to take full advantage of this assistance. The student-adviser relationship is very important to the effective academic progress of the student.

STUDENT AID

Students interested in part-time employment, assistantships, fellowships, loans, prizes, and awards are referred to individual departments and information provided by the Student Financial Affairs, University of Florida, Gainesville, Florida.

PRACTICAL EXPERIENCE

Students are urged to obtain before graduation some experience in the employ of practicing professionals in their particular field, or in some allied work which will give an insight into the problems of professional practice. Such employment provides an introduction to the methods of actual practice, and enables the student to derive increased benefit from advanced work in school. Students should seek the counsel of their faculty adviser as to the type of practical experience best suited to their individual needs.

FIELD TRIPS

Each year a number of field trips are arranged to give students an opportunity to broaden and extend their educational experience through study of planning, design and construction projects of unusual interest. Students fre-

quently combine such studies with attendance at state and national meetings of the professional organizations in their respective fields.

STUDENT WORK

The College reserves the right to retain student work for the purpose of record, exhibition, or instruction.

STUDENT ORGANIZATIONS

Student organizations take an active part in the educational program of the College. Membership in the professional organizations of each discipline is available to the student chapters. Student chapters of the American Institute of Architects and the American Society of Interior Designers, Institute of Business Designers, the UF Chapter of the American Society of Landscape Architects, the Student Planning Association, the UF Chapter of the American Institute of Constructors and the Student Contractors and Builders Association are all represented. In addition, honorary societies of Tau Sigma Delta, Sigma Lambda Alpha, Sigma Lambda Chi, and the Gargoyle Society are represented. The College recognizes the importance of student involvement and encourages and assists participation with professional groups and societies.

GRADUATE DEGREES

The college offers the degrees of Master of Arts in Architecture, Master of Arts in Urban and Regional Planning, Master of Science in Building Construction, and Master of Building Construction. To meet the needs and goals of each student, graduate programs are prepared in consultation with a designated member of the Graduate Faculty of the College of Architecture. For further information, see the Graduate School catalog.

Architecture: The degree of Master of Arts in Architecture is a professional degree for those students who wish to qualify for registration as an architect. Prerequisite to admissions to the graduate program is a Bachelor of Design (Architecture) degree or its equivalent. Minimum requirements are 52 semester hours which includes 6 hours of thesis or terminal project. This normally takes two years to complete.

All beginning graduate students enroll in Professional Core the first term, then pursue studies related to special interests — architectural design, architectural structures, architectural preservation, architectural history, and environmental technology.

Under special circumstances the graduate faculty of the department may elect to admit students who have a Bachelor of Architecture degree from a five-year program, for a one-year graduate program leading to the Master of Arts in Architecture. For additional information see the Graduate Catalog or contact the Graduate Coordinator in the office of the Department of Architecture.

Building Construction: A program focusing on managing construction. Areas of intensive study and research include construction management, advanced construction techniques, building systems, construction materials and structural concepts. Holders of a four-year undergraduate degree in Building Construction normally can complete the program in one academic year (2 semesters). Students with undergraduate degrees in related fields, such as Architecture and Engineering, can normally complete the program in 3 semesters.

The construction industry needs managers with a knowledge of business. To meet this need there is a special program for students with a four-year degree in Business Administration leading to a Master of Building Construction Degree in 4 semesters.

In response to the developing need for specialized professional researchers and teachers in the field of construction, the School is now offering a Ph.D. program in conjunction with the College of Education.

Urban and Regional Planning: The Department of Urban and Regional Planning offers graduate work leading to the degree of Master of Arts in Urban and Regional Planning (M.A.U.R.P.). Students are encouraged to enter the program at the beginning of Fall Semester each academic year. The program is usually completed in two academic years. The student entering with an undergraduate degree and no graduate study must complete 48 hours of credit for the M.A.U.R.P. degree. Students who have earned graduate credit in related fields may transfer up to 18 semester hours toward the 48 hour requirement with consent of the department. The department encourages students with any undergraduate degree, who show evidence of education and interest appropriate in the planning field, to apply for admission.

Applications for admission must be received 90 days prior to the beginning of each semester. The Registrar's Office will notify applicant of acceptance at least 45 days before semester begins. The department will notify applicant of rejection at least 45 days before the semester begins.

The Urban and Regional Planning curriculum is designed to provide content and context to a comprehensive planning or decision model which forms this basic strategy shaping the core studies. The content courses include history and theory of planning, planning methods, community powers for plan implementation, planning design, and urban economics. The context courses include urban design, special district planning, comprehensive and land development planning with cogent projects of one semester or longer. This curriculum is supported by adequate studio and individual study space in close proximity to architectural and landscape architectural laboratories, computer graphics system, and large visual aid library. The program is recognized by the American Planning Association for having achieved the highest applicable standards for a graduate planning program. Graduates of the program will be prepared for professional standing in urban and regional planning practice. The department and the College of Law offer a joint study program. The Departments of Urban and Regional Planning and Architecture additionally offer a program in planning and preservation.

In addition to course work the student is required to experience an internship with a public or private planning office and successfully complete a comprehensive examination and thesis or terminal project. The thesis or project is included in the required 48 hours. The department reserves the right to retain student work for the purposes of record, exhibition, or instruction.

For more information, see the Graduate School catalog, or contact the program office in 431 ARCH, (904) 392-0997.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Architecture encourage applications from qualified students from all cultural, racial, religious and ethnic groups. Listed below are the specific requirements for admission to this College. It should be understood, however, that minimum requirements are given and that admission to the College is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. Limitations in staff, faculty and facilities make it necessary that the College establish quotas for the admission of students. Therefore, eligible applicants will be considered for admission to the College of Architecture within established quotas. A student's total record, including educational objective, pattern of courses previously completed, quality of previous academic record, and test data will be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential, on the basis of their total record, indicates the greatest likelihood of success in the program requested.

Students Classified UF: To be eligible for admission to the College of Architecture, a University College student must have: 1) earned at least 60-70 semester hours (varies with curricula) with the minimum average of "C" or higher in the courses required by the appropriate curriculum specified for

the Freshman and Sophomore years; and 2) passed all required preprofessional courses within those two years with a minimum grade average of "C," or 3) be accepted as a major within enrollment limitations in one of the curricula in order to complete required preprofessional courses. Students in other upper division colleges can be admitted to preprofessional courses on a space available basis only after all College of Architecture majors have been served. Admission to programs restricting enrollment because of space limitations may require that the student earn higher than the 2.0 (C) average minimum. Quotas will limit the admission of students based upon the overall academic record, grade point average and apparent potential for successful completion of the program.

Minimum grades required in certain courses and other special requirements for admission to various curricula in the College of Architecture should be obtained from the Dean's Office or from the departmental adviser.

Transfer Students: To be eligible for admission to the College of Architecture a transfer student must satisfy the minimum requirements for admission as specified in the ADMISSIONS section of this catalog. Additionally, the applicant must satisfy the following specific requirements for admission to the College of Architecture:

A. Transfers from four-year colleges

Students attending four-year colleges should take courses similar to the appropriate program as outlined in this catalog.

B. Community College Transfers to Departments within the College

1. *Curriculum in Architecture:* Transfer students from community colleges not having approved prearchitecture programs may be admitted provisionally (see below). They should expect to take up to four semesters of work at the University of Florida to complete the preprofessional courses not available at the community college. If the community college offers none of the preprofessional courses, the student should consider transfer to the University prior to graduation from the community college. Mathematics, including calculus, and one semester of physics (with laboratory) dealing with motion force, gravity, equilibrium, energy, etc. should be taken at the community college.

Admission to Third Year Professional Course Work in Architecture: Through an Admissions Committee the Department of Architecture selects from eligible applicants approximately 100 students annually to enter third year professional studies. All students who satisfactorily complete the two year preprofessional programs at Miami-Dade, Broward and St. Petersburg (Clearwater) community colleges are eligible for consideration for third year admissions. Applicants for transfer from one of the approved preprofessional programs or from the Lower Division of the UF College of Liberal Arts and Sciences must be filed by the deadline listed in the front of the catalog (approximately February 1). Transfer students with provisional admission status. (3AR, 4AR, 5AR, or 6AR) must notify the Department office of their wish to be considered for third year admissions by the same date.

The following criteria will be used in screening applicants for third year admission into the professional courses:

Consideration of the pattern of courses at the community college or university in relation to the professional objective.
The overall quality of the work accomplished.
Achievement in preprofessional courses and courses related to the proposed field of study.

In addition, selective admissions policy may include information in consideration of the following:

The candidate's rank in the graduating class of the community college or university.
Experience in design offices or construction.
Recommendations from professionals, employers, or college counselors.
Examples of previous work in the design fields.
Results of a personal interview.

Applicants can expect to be notified of the decisions of the Admissions Committee by March 31.

2. *Curriculum in Interior Design:* Transfer students needing to complete Lower Division pre-professional requirements are urged to apply for the summer term for the sequence of drawing, building arts and architectural history. The remaining preprofessional courses may be completed during the next academic year. Students accepted for the sequence shall be admitted as provisional as is explained in the "Provisional Admission" section below. These students shall be reviewed during the spring of the next year for approval for the professional courses in the junior year. Notification of the decision of the admissions committee shall be made prior to the close of the spring semester for the junior class which begins the following fall.

3. *Curriculum in Landscape Architecture:* Transfer students contemplating the professional degree program must contact the Department Adviser to determine admission timing and eligibility. Students completing the pre-design programs at Miami-Dade, Broward, and St. Petersburg (Clearwater) Community Colleges must complete LAA 2710 and LAA 2711 during the summer term preceeding admission to professional studies, these students must also have the equivalent botany and physical science courses. Transfer students from community colleges not offering an equivalent pre-design program are urged to begin their preprofessional course work in the summer term in order to complete required classes in three semesters. Calculus, botany, and physical science requirements, in addition to general education requirements, can normally be fulfilled at the Community College. Students with Associate of Science degrees must complete all required general education and preprofessional course work prior to admission to professional studies.

The following criteria will be used in evaluating candidates for admission to professional studies:

Quality achievement in preprofessional courses and courses related to landscape architecture, and review of transcript histories related to professional objectives.

In addition, because landscape architecture is a quota program, selective admission policy may include information in consideration of the following.

Personal interview.
Portfolio review.
Recommendations.
Work experiences.
Rank in prior graduating class.

Candidates for admission to professional studies can normally expect to be notified of the decisions of the Admissions Committee by June 1.

4. *Curriculum in Building Construction.* see the School of Building Construction, Provisional Admission. Qualified transfer students who have not completed all preprofessional coursework may be admitted provisionally, within the limitations of available space and faculty, until such deficiencies are removed. Students will register for the preprofessional courses necessary to remove the deficiencies in the shortest possible time and will not be permitted to register in professional coursework numbered 3000 or above. Students with provisional admission status must compete for a space in Upper Division coursework along with other eligible candidates. Removal of provisional status and acceptance for registration in the 3000 level courses are approved by the Director of the School.

MAXIMUM AND MINIMUM LOADS

Fifteen to eighteen semester hours in any regular semester shall be considered a normal load. A student may be permitted to register for more than eighteen semester hours

when, in the opinion of the adviser, the quality of the student's record justifies this. The minimum load for a full-time student in the University during a regular semester is 12 hours. At the time of registration a student, with the approval of the Dean, may register for less than twelve semester hours. If a student wishes to drop courses during the semester, the student must have the approval of the College Committee on Student Petitions.

NORMAL ACADEMIC PROGRESS

The student will have maintained normal academic progress when he earns a minimum grade point of 2.0 (C) average for all work attempted in the Upper Division. In addition, he is required to take courses in a sequence as specified by his departmental chairman or adviser. The student may be excluded from a program of study in the College of Architecture through failure or refusal to maintain normal academic progress.

DEAN'S HONOR LIST

Undergraduate students who demonstrate excellence in their academic work by completing a full course load (minimum of 12 semester hours credit) in a semester term and achieving a grade point average of 3.5 or better will earn a position on the Dean's Honor List. Students whose term averages are below 3.5 due to grades of I or X are not eligible.

GRADUATION REQUIREMENTS

To be eligible for graduation, the student must earn a minimum grade point average of 2.0 (C) for all work attempted in the appropriate curriculum while classified in the College. Courses taken while enrolled in another Upper Division College may not apply toward the calculation of the College of Architecture average. Specific grade requirements for the various curricula may be obtained from the department or Dean's Office.

Students planning to enter the Graduate School should maintain a 3.0 (B) average in Upper Division work.

GRADUATION WITH HONORS AND HIGH HONORS

The faculty will consider recommending students for graduation with HONORS or HIGH HONORS on the following criteria: (a) grade point average, (b) distribution and quality of subject matter studied, (c) evaluation of the students by the faculty, and (d) other pertinent qualities of the student and his or her work.

The student will be considered for HONORS or HIGH HONORS upon his earning a minimum academic average established by the department or program. The average will be calculated on all work attempted while the student is classified in the Upper Division. Transfer credits will be excluded from the average; HONORS or HIGH HONORS may be awarded upon a minimum of 48 semester hour credits taken at the University of Florida. Students should check with their department or program director for minimum average required.

I. CURRICULUM IN ARCHITECTURE

Leading to the Degree of Bachelor of Design (Architecture). Butt, A.F., *Chairman*; Crain, E.E., *Advisor*.

The professional program in architecture, which is accredited by the National Accrediting Board, consists of both the undergraduate and graduate curricula. The undergraduate curriculum leads to the degree Bachelor of Design (Architecture). Although this is not a professional degree, it is excellent preparation for careers in the architectural field where registration is not a requirement.

Completion of the two-year graduate curriculum leads to the professional degree Master of Arts in Architecture, which meets the educational requirements of Florida statutes for architectural registration.

In the graduate program optional courses of study are in architectural design, architectural structural design, environmental technologies, architectural history, and architectural preservation. These options permit the student to study in an area of particular interest; however, all options lead to the same professional degree and each prepares the graduate for a career in professional practice. For detailed information see the Graduate Catalog.

The program of study is included below to show a typical sequence in which courses are taken. Some courses in the first two years are offered in semesters in addition to those shown. Consult the course description section in the back of the catalog for precise information on offerings.

The Department reserves the right to retain student work for the purposes of record, exhibition, or instruction.

FIRST YEAR	Credits
Semester 1	
ARC 1126 Architectural Communications 1	3
ARC 1211 Building Arts	2
Physical Sciences	3
MAC 3223 Survey of Calculus 1	3
Humanities	3
BES Behavioral Studies	3
	17
Semester 2	
ARC 1131 Architectural Communications 2	3
*ARC 1701 Survey of Arch. History 1	3
ARC 1701L Survey of Arch. History Lab	1
Social Sciences	3
English	3
PHY 2004 Applied Physics 1	3
	16

*Satisfies 3 hours of General Education requirement for Humanities.

SECOND YEAR	Credits
Semester 1	
ARC 2311 Architectural Design 1	4
ARC 2461 Materials & Methods of Construction 1	3
ARC 2201 Theory of Architecture	2
English	3
Biological Science	3
	15
Semester 2	
ARC 2313 Architecture Design 2	4
ARC 2580 Architectural Structures 1	4
ARC 2681 Environmental Technology 1	2
CIS 4930 Introduction to Computers (Special Topics)	1
Social Sciences	3
Humanities	3
	17

THIRD YEAR	Credits
Semester 1	
ARC 3381 Architectural Design 3	5
ARC 3463 Materials & Methods of Construction 2	3
ARC 3783 Survey of Architectural History 2	3
Electives	6
	17
Semester 2	
ARC 3382 Architectural Design 4	5
ARC 3551 Architectural Structures 2	4
ARC 3682 Environmental Technology 2	4

COLLEGE OF ARCHITECTURE

ARC 3801 Survey of Architectural Preservation 2
Electives 3
18

FOURTH YEAR *Credits*
Semester 1
ARC 4384 Architectural Design 5 6
ARC 4561 Architectural Structures 3 4
ARC 4683 Environmental Technology 3 4
Electives 3
17

Semester 2
ARC 4385 Architectural Design 6 6
ARC 4464 Materials & Methods of Construction 3 3
ARC 4783 Survey of Architectural History 3 3
ARC 4274 Professional Administration 4
16

II. CURRICULUM IN INTERIOR DESIGN

Leading to the degree of Bachelor of Design. M. Young, *Director and Advisor.*

The four-year program in Interior Design is accredited by the Foundation for Interior Design Education and Research. The course of study has been developed for those students who plan a career in the profession of Interior Design. The curriculum is structured to provide a knowledge of the principles of the humanities, social and physical sciences, and the manner in which they are integrated and applied in the design process to creatively resolve problems of the interior environment. The interior design faculty seeks to equip the student with a knowledge of design techniques, materials, resources, and an awareness of the inter-related professional responsibility of environmental problems. Interior Design career opportunities are numerous due to the demand for professional design services by businesses, corporations, community organizations, and governmental agencies. Graduates of this program often assume positions in interior design offices, architectural firms, or generate their own practices. All entering students must consult with the program coordinator for course scheduling and sequencing. Interior Design is a limited entry program therefore it is prudent to consult program coordinator.

FIRST YEAR *Credits*
Semester 1
ARC 1126 Architectural Communications 1 3
ARC 1211 Building Arts 2
Physical Science 3
MAC 3223 Survey of Calculus 1 or Algebra and Trig. 3
English 3
Social Science 3
(Recommend Intro. to Sociology)
17

Semester 2
ARC 1131 Architectural Communications 2 3
*ARC 1701 Survey of Arch. History 3
ARC 1701L Survey of Arch. History lab 1
PHY 2004 Applied Physics 1 3
English 3
Social Science 3
16

*Satisfies 3 hours of General Education requirement for Humanities.

SECOND YEAR *Credits*
Semester 1
ARC 2311 Architectural Design 1 4
ARC 2461 Materials & Methods of Construction 1 3
ARC 2201 Theory of Architecture 2
IND 2100 History of Interiors I 2
Humanities 3
(Recommend Theatre Appreciation)
Biological Science 3
17

Semester 2
ARC 2313 Architectural Design 2 4
ARC 2580 Architectural Structures 1 4
ARC 2681 Environmental Technology 1 2
IND 2130 History of Interiors 2 2
Humanities 3
CIS 4930 Introduction to Computers (Special Topics) 1
16

THIRD YEAR *Credits*
Semester 1
IND 3430 Light & Graphics I 3
IND 3215 Architectural Interiors I 5
ORH 3008 Ornamental Horticulture 4
Elective 3
BES Behavioral Studies 3
18

Semester 2
IND 3431 Light & Graphics 2 3
IND 3421 Furniture Design 3
IND 3216 Architectural Interiors 2 5
IND 3460 Technologies of Interior Materials 3
Elective 3
17

FOURTH YEAR *Credits*
Semester 1
IND 4500 Prof. Practice 3
IND 4450 Int. Detailing & Design 3
IND 4225 Advanced Architectural Interiors I 6
Electives 4
16

Semester 2
IND 4422 Materials & Estimating 3
IND 4226 Advanced Architectural Interiors 2 8
Electives 6
(Recommend Stagecraft and Design)
17

III. CURRICULUM IN LANDSCAPE ARCHITECTURE

Leading to the Degree of Bachelor of Landscape Architecture. H.H. Smith, *Program Chairman and Adviser*

This four-year curriculum is designed for those students who seek an undergraduate professional education in Landscape Architecture. Leading to the degree Bachelor of Landscape Architecture, the program is accredited by the LAAB, and is an essential first step toward legal identity in those states which regulate the practice of landscape architects. Since Florida is one of these states, entering students are embarked on a professional career where design, construction, management, and ethical commitment are construed as being in the best interests of public health, safety, and welfare. The U.S. Department of Labor has indicated that Landscape Architecture will be among the fastest growing professions in the 1980's.

The program is founded on the basic skill and techniques of landscape architecture and training is enhanced through subsequent professional practice. Students become familiar with the art of design, planning or management, and the arrangement of natural and man-made elements on the land

through application of cultural and scientific knowledge. There is concern for resource conservation and stewardship in that the resultant environment must serve useful and enjoyable purposes. Graduates are employed by professional offices, municipal, state or federal recreation, landscape architectural or planning agencies and the construction and horticultural industries. Many graduates also continue in graduate programs at other institutions throughout the country.

Since landscape architecture is a quota program, please see Requirements for Admission, College of Architecture. All entering students must consult with the Department Adviser for course scheduling and sequencing.

FIRST YEAR	*Credits*
Semester 1	
English	3
Physical Science	3
Intro. to Sociology	3
*BOT 1010 Botany	3
ARC 1211 Building Arts	2
ARC 1126 Architectural Communications 1	3
	17
Semester 2	
English	3
Geology 2015, GEO 2200 or ISC 2121	3
MAC 3223 Survey of Calculus 1	3
**ARC 1701 Survey of Arch. History 1	3
ARC 1701L Survey of Arch. History Lab	1
ARC 1131 Architectural Communications 2	3
	16

*Students with general biology background should take BOT 2710.
**Satisfies 3 hours of General Education requirement for Humanities.

SECOND YEAR	*Credits*
Semester 1	
Humanities	3
CIS 4930 Introduction to Computers (Special Topics)	1
LAA 2710 Landscape Architecture 1	4
ARC 2311 Architectural Design 1	4
ARC 2201 Theory of Architecture	2
ARC 2461 Materials & Methods of Construction 1	3
	17
Semester 2	
Humanities	3
Social Science	3
ARC 2711 Landscape Architecture 2	4
ARC 2313 Architectural Design 2	4
ARC 2580 Architectural Structures 1	4
	18

All preprofessional course work must be completed prior to admission to the professional program.

THIRD YEAR	*Credits*
Semester 1	
LAA 3350 Landscape Architecture Studio 1	5
LAA 3420 Landscape Architecture Construction 1	3
LAA 3330 Site Analysis	3
ORH 3513 Plant Materials 1	3
BES Behavioral Studies	3
	17
Semester 2	
LAA 3351 Landscape Architecture Studio 2	5
LAA 3421 Landscape Architecture Construction 2	3
LAA 3510 Planting Design	4
LAA 3530 Land. Management	3
ORH 3514 Plant Materials 2	3
	18

FOURTH YEAR	*Credits*
Semester 1	
LAA 4355 Landscape Architecture Studio 3	8
LAA 4410 Design Implementation	3
LAA 4930 Seminar	2
Elective	3
	16
Semester 2	Credits
LAA 4356 Landscape Architecture Studio 4	8
LAA 4210 Professional Administration	3
Elective	3
Elective	3
	17

68 hours (minimum) of professional course work required for the degree, Bachelor of Landscape Architecture.
A week-long field trip is required of all Junior level students; students should plan to have adequate funds available. It may be necessary to assess studio fees to defray increasing costs of base maps and other generally used materials. Students may elect certain minor certificate programs to fulfill elective requirements. Landscape Architectural Internship is also available for elective credit. A studies abroad program is offered.

IV. CURRICULUM IN BUILDING CONSTRUCTION

(See The School of Building Construction)

V. CURRICULUM IN URBAN AND REGIONAL PLANNING

The Department of Urban and Regional Planning does not as yet offer a complete undergraduate program. However, two undergraduate courses are available and described under Urban and Regional Planning in the section entitled Descriptions.

The School of Building Construction

GENERAL STATEMENT

The School of Building Construction was established in 1976 but a curriculum in Building Construction in the College of Architecture has been offered continuously since 1935. While a few programs were begun before that, none of them are still in operation today.

The UF program in 1977 was recognized by the Associated General Contractors Education and Research Foundation as outstanding in the United States.

Graduates of the UF School of Building Construction begin work immediately as project managers, field engineers, project planners, cost engineers, assistant superintendents, and quality controllers.

The school has an Upper Division enrollment of 300, plus 30 students working toward a graduate degree. Also, a Ph.D. program is offered in conjunction with the College of Education.

In converting from the quarter to the semester system, 3 quarter credits are equivalent to 2 semester credits.

SCHOLARSHIPS AND ASSISTANTSHIPS

Information about general financial aid can be obtained from the Office of Student Financial Affairs, University of Florida, Gainesville, Florida. Information concerning scholarships available specifically for third and fourth year Building Construction students can be obtained from the School.

HONORARY AND PROFESSIONAL ORGANIZATIONS

SIGMA LAMBDA CHI

The purpose of Sigma Lambda Chi is to recognize outstanding students in Building Construction for scholastic achievement and extracurricular activities. Semester membership averages 35 active members. Sigma Lambda Chi provides services to BCN students through academic scholarships, plans for construction coursework, guest lecturers, and extracurricular skill development courses. Sigma Lambda Chi provides a channel of communication between students and outstanding alumni in the construction industry.

AMERICAN INSTITUTE OF CONSTRUCTORS

The Student Chapter of the American Institute of Constructors is a professional organization which serves as a bridge between students and professional constructors.

Membership is open to all Building Construction majors—both undergraduate and graduate students.

STUDENT CONTRACTORS AND BUILDERS ASSOCIATION

The Associated General Contractors of America (AGC) actively supports the Student Contractors and Builders Association whose purposes are to better the student's awareness of the construction industry and to promote the School of Building Construction to both the industry and the community. Any Building Construction student can, and is encouraged to become a member.

The activities of this organization include inviting guest speakers, organizing the Homecoming festivities, operating the Building Construction test bank, carrying out community service projects, and having semester social gatherings.

PROGRAM OF STUDY

This four year program is for students who are interested in preparing for professional careers in construction science, management, techniques, operations, and related areas in the construction industry rather than in architectural and engineering design.

The construction industry and its related fields are in dire need of young men and women educated in the arts of communications and interpersonal relations. This curriculum provides education in these areas too.

Graduate programs leading to the degrees of Master of Science in Building Construction and Master of Building Construction are offered, as well as a Ph.D. program in conjunction with the College of Education.

The Freshman and Sophomore programs of study are designed to provide easy transfer for junior and community college Associate of Arts graduates. Equivalent transfer courses in these first two years are available at many junior and community colleges. Thus, with proper course planning, transfer students with A.A. degrees may complete the four-year degree program in four remaining semesters at the University. Prospective junior and community college transfer students should consult their advisers or write to the School of Building Construction for a pre-Building Construction program of local study.

Students are especially attracted to construction because of the creative excitement, the challenging and rewarding opportunities offered, and the sense of tangible accomplishment. Opportunities for advancement and increasing responsibilities are unlimited in all areas of the industry, a few of which include land development; home building; public building; industrialized building systems; commercial, industrial, marine and heavy construction; underwater and space age facilities; materials and equipment sales and installations; construction product research, development, sales, and applications. Typical company titles of jobs accepted by graduating seniors are: project planner, cost engineer, project scheduler, estimator, and assistant project manager.

APPLICATION DEADLINES — GENERAL

The School of Building Construction will admit students for third year professional coursework in the Fall and Spring semesters. Applications shall be reviewed in accordance with the deadlines stated below for students starting at this level. The School of Building Construction will not admit new students for the Summer term.

APPLICATION DEADLINES — FALL SEMESTER

Deadlines for completion of all application procedures, including School requirements and receipt of official credentials is March 1, 1982. Applicants unable to meet this deadline may apply on a space available basis.

APPLICATION DEADLINES — SPRING SEMESTER

Deadlines for completion of all application procedures, including School requirements and receipt of official

credentials for the School of Building Construction is October 1, 1982. Applicants unable to meet this deadline may apply on a space available basis.

REQUIREMENTS FOR ADMISSION

The University of Florida and the School of Building Construction encourage applications from qualified students from all cultural, racial, religious and ethnic groups. Listed below are the specific requirements for admission to this school. It should be understood, however, that minimum requirements are given and that admission to the school is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. Limitations in staff, faculty and facilities make it necessary that the school establish quotas for the admission of students. Therefore, eligible applicants will be considered for admission to the School of Building Construction within established quotas. A student's total record, including educational objective, pattern or courses previously completed, quality of previous academic record, and test data will be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential, on the basis of their total record, indicates the greatest likelihood of success in the program requested.

ALL STUDENTS: A letter of intent must be sent to the Director of the School of Building Construction indicating the student's career objectives in construction. The letter must contain a resume of all construction experience to include name, address and phone number of employers and be received with the application by the deadline date listed in the University Calendar.

COLLEGE OF LIBERAL ARTS AND SCIENCES STUDENTS: To be eligible for admission to the School of Building Construction, a College of Liberal Arts and Sciences student must have completed the 27 semester credits of preprofessional courses and have at least an overall 2.0 average. Acceptance to the School of Building Construction will also be based upon completion of the prerequisite general education courses or equivalents.

TRANSFER STUDENTS: To be eligible for admission to the School of Building Construction, a transfer student must satisfy the minimum requirements for admission that are set forth below.

A. Students attending four-year colleges should follow a program of general education and preprofessional courses equivalent to the basic curriculum for students desiring to enter the School of Building Construction, which is outlined in the College of Liberal Arts and Sciences section of this catalog.

B. Junior College and Community College students should:

1. Complete the university transfer program at the junior college.
2. Complete the general education requirements established for the junior college.
3. Complete all of the prerequisite courses, or acceptable substitutes, which are listed as General Education and Preprofessional requirements in the College of Liberal Arts and Science section.

C. Students lacking some of the prerequisite courses may apply for admission to the College of Liberal Arts and Sciences.

PROVISIONAL ADMISSION: Within space limitations, students who do not meet precisely the admission requirements indicated may be granted provisional admission to the School of Building Construction. The Director of the School of Building Construction will specify the courses to be completed and minimum grade points to be earned by the student during the term of his provisional admission. Provisional status will be removed and the student fully admitted to the School of Building Construction provided the student fulfills the conditions set forth in his provisional admission. The student will be excluded from further enrollment in the School of Building Construction if the student fails to satisfy the conditions of his provisional admission.

GENERAL REGULATIONS

STUDENT RESPONSIBILITY: The student must assume full responsibility for registering for the proper courses and for fulfilling all requirements for the degree. The student is also responsible for completing all courses for which the student registered.

Courses may be dropped with adviser approval until the end of the first week of the semester without petitioning. After the first week, courses may be dropped or changed without penalty only through the administrative office of the School (by petition) and the Registrar.

Seniors must file formal application for a degree in the Office of the Registrar early in the semester in which they expect to receive the degree. The official calendar shows the latest date on which this can be done.

NORMAL LOADS: The average course load in the School of Building Construction is 16 credit hours. A student may be permitted to register for additional hours if in the opinion of his academic adviser, his academic record justifies this. Students who wish to take less than 12 hours should be aware that certain university privileges and benefits require a minimum registration. It is the student's responsibility to verify the minimum registration necessary for these benefits.

EXTENSION WORK: Students may take a maximum of 6 credits by extension work or correspondence courses among the 64 semester credits of Upper Division work required for the baccalaureate degree.

PROBATION AND SUSPENSION: Students who do not make satisfactory academic progress may be excluded from further registration.

GRADUATION REQUIREMENTS: To receive the degree Bachelor of Building Construction a student must satisfactorily complete the following:

1. 64 semester hours of Lower Division requirements.
2. The approved program in Building Construction.
3. Elective requirements.

A minimum of 128 semester hours is required for graduation. The waiving of any required course does not reduce the hours required for graduation. A student must maintain an overall average of 2.0, and a 2.0 average on all courses which count toward his or her Upper Division degree requirements.

NORMAL ACADEMIC PROGRESS

The student will have maintained normal academic progress when the student earns a minimum grade point of 2.0 (C) average for all work attempted in the Upper Division. In addition, the student is required to take courses in sequence as specified by the School Director or adviser. The student may be excluded from a program of study in the School of Building Construction if the student fails or refuses to maintain normal academic progress.

DIRECTOR'S LIST AND GRADUATION WITH HONORS OR HIGH HONORS

A student who carried a minimum of 12 hours per semester with a grade point average of at least 3.5 will be placed on the Director's List for that semester.

To graduate *WITH HONORS*, a student must make at least a 3.2 average on all course work accepted as Upper Division credit and all course work (except as noted below) attempted while registered in the Upper Division. To graduate *WITH HIGH HONORS*, a student must make at least a 3.5 average on all work accepted as Upper Division credit and all course work (except as noted below) attempted while registered in the Upper Division. In calculating requirements for graduating *WITH HONORS* or *WITH HIGH HONORS*, the following policies are followed: the student must have completed at the University of Florida at least 48 semester hours of Upper Division credit toward a degree in Building Construction, transfer credits and S-U grade credits being excluded; and credits for Lower Division courses taken while registered in Upper Division will also be excluded.

GRADUATE DEGREES AND ADMISSION TO GRADUATE WORK

Courses are offered in the School of Building Construction leading to the degree Master of Building Construction or Master of Science in Building Construction. Also, a Ph.D degree is offered in conjunction with the College of Education. For requirements for these degrees and for admission to Graduate School, consult the Graduate School Catalog.

CURRICULUM

The program below shows the prerequisite courses in the typical sequence in which the courses should be taken. See Plans of Study by College of Major in the College of Liberal Arts and Sciences section for minimum grade requirements and substitute courses.

FRESHMAN YEAR	*Credits*
ENC 1101 Expository and Argumentative Writing	3
MAC 3223 Survey of Calculus I	3
APB 2150 Biological Sciences I	3
BCN 1210 Construction Materials	3
Social Sciences	3
	15
ENC 1102 Writing About Literature	3
PHY 2004 Applied Physics I	3
BCN 1251 Construction Drawing I	3
Humanities	3
Social Sciences	3
	15

SOPHOMORE YEAR	*Credits*
ENC 3213 Technical Writing & Business Communications	3
PHY 2005 Applied Physics II	3
PHY 2004L Laboratory for PHY 2004/2005	1
Behavioral Studies	3
Principles of Accounting	3
Humanities	3
	16
GLY 2026 Geology for Engineers	3
ARC 2580 Architectural Structures I	4
ECO 2013 Basic Economics I	3
COP 3210 Computer Programming Using Fortran	2
Humanities	3
Elective	3
	18
Lower Division Subtotal	64

JUNIOR YEAR	*Credits*
BCN 3223 Construction Techniques I	5
BCN 3256 Construction Drawing II	2
BCN 3281 Construction Methods Lab (Surveying)	2
BCN 3431 Structures I (Steel and Timber)	4
*Business Law	3
	16
BCN 3224 Construction Techniques II	5
BCN 3461 Structures II (Formwork and Concrete)	4
BCN 3500 Environmental Technology I	3
BCN 3611 Construction Estimating I	4
	16

SENIOR YEAR	*Credits*
BCN 4521 Environmental Technology II	3
BCN 4612 Construction Estimating II	4
BCN 4700 Construction Management I	4
BCN 4720 Construction Planning & Control	3
BCN 4901L Construction Seminar I	1
	15
BCN 4012 History of Construction	3
BCN 4510 Environmental Technology III	3
BCN 4750 Construction Management II	4
BCN 4751 Construction Entrepreneurship	3
BCN 4902L Construction Seminar II	1
Elective	3
	17
Upper Division Subtotal	64
TOTAL	128

*If taken at UF, BUL 4112 is required.

The College of Business Administration

ACCOUNTING
(See School of Accounting)
COMPUTER AND INFORMATION SCIENCES
FINANCE, INSURANCE, & REAL ESTATE
& URBAN LAND DEVELOPMENT
ECONOMICS
MANAGEMENT
MARKETING

The College of Business Administration

GENERAL STATEMENT

The College of Business Administration of the University of Florida was organized in 1926-27. The divisions of the College are: School of Accounting; Department of Economics; Department of Finance, Insurance, Real Estate and Urban Analysis; Department of Management; Department of Marketing; and Bureau of Economic and Business Research.

The College of Business Administration has broad objectives; to provide the foundation for competent, responsible participation in business, the professions and government; to stimulate interest in social, economic and civic responsibilities; to develop competence in making business decisions and in evaluating policy; to offer fields of specialization in business or economics, and, especially, to encourage intellectual inquiry.

Specific arts and detailed information are necessary parts of the curriculum, but the guiding principle of this College is to stress broad fundamentals in terms of the above objectives, and to prepare the student to develop subsequent specialization. To this end, every curriculum of the College is constructed around a core of courses in economics and the major functional areas of business.

The College also has other functions. It contributes to knowledge through the research activities of its faculty and students. Graduate programs are provided for advanced students and prospective teachers in business administration and economics. The College participates in program of adult education both on and off campus. It recognizes its responsibilities to students in other colleges of the University by giving them an opportunity to complement their education with courses in economics and business administration.

The College maintains a computer facility for instructional andd research purposes. Advanced students also have access to the University Computing Center, which contains high capacity equipment.

SCHOLARSHIPS AND ASSISTANTSHIPS

Scholarships are available for students in Business Administration. Full information about these scholarships may be obtained from the Director of Student Financial Aid, University of Florida, Gainesville, Florida.

Graduate assistantships and fellowships are available for students working toward the degrees of Master of Business Administration, Master of Arts, and Doctor of Philosophy. Information about these assistantships may be obtained from the Director of Graduate Studies, College of Business Administration, University of Florida, Gainesville, Florida.

BUREAU OF ECONOMIC AND BUSINESS RESEARCH

There is established in the College of Business Administration a Bureau of Economic and Business Research. One of the major purposes of this Bureau is to carry out research undertakings designed to contribute to economic and business knowledge, with primary emphasis upon the economy of Florida and the Southeast. A second major aim is the functional participation of the faculty members of the Bureau staff in the curriculum for graduate training offered by the College of Business Administration and in this way to provide opportunity for graduate students to engage in specific research projects. From time to time work is undertaken which permits a similar opportunity for undergraduate students.

The Bureau publishes the results of its research undertakings as these are completed. It also issues periodically publications, *Economic Leaflets*, and *Business and Economic Dimensions*.

The Bureau is a member of the Associated University Bureaus of Business and Economic Research.

MEMBERSHIP IN NATIONAL AND REGIONAL ASSOCIATIONS

The College of Business Administration is a member of the American Assembly of Collegiate Schools of Business, the Southern Economic Association, the Southern Business Administrative Association and the National Retail Merchants' Association. Its baccalaureate and MBA programs are accredited by the American Assembly of Collegiate Schools of Business.

BETA GAMMA SIGMA

Election to this national honorary society is based on scholarship and character. It fills the place in education for business that the society of Phi Beta Kappa holds in the field of classical education. Duly elected members have the right to wear the *insigne* of the society — the Beta Gamma Sigma gold key. For further information apply to the Office of the Dean.

PROFESSIONAL ORGANIZATIONS AND CLUBS

There are five professional fraternities which elect members from students in the College of Business Administration. These are Alpha Kappa Psi and Delta Sigma Pi in commerce and business, Omicron Delta Epsilon in economics, Phi Chi Theta for business women, and Rho Epsilon in real estate. Several clubs also give students with specialized interest an opportunity to participate in their activities.

WOMEN IN BUSINESS

Rapidly increasing opportunities exist for women graduates in many business fields. Illustrative areas are marketing, banking, accounting, economic analysis, insurance, real estate, personnel administration, statistics and investments.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Business Administration encourages applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the speciific requirements for admission to this college. It should be understood however that minimum requirements are given and that admission to this college is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. A student's total record including educational objective, pattern of courses previously completed, quality of previous academic record, and test data will all be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested.

Any student with a UF classification who has completed at least one semester at the University of Florida may apply for admission to the College of Business Administration.

Admission is based on grade point average and preprofessional hours. The higher the grade point average, the fewer the preprofessional hours required. The number of

credit hours for each course is listed in the course section of the catalog.

GPA	MINIMUM NUMBER OF PREPROFESSIONAL HOURS COMPLETED FOR EACH GPA
2.5	18
2.6	17
2.7	16
2.8	15
2.9	13
3.0	12
3.1	6
3.2	4
3.3	0

Transfer Students: To be eligible for admission to the College of Business Administration, a transfer student must satisfy the minimum requirements for admission that are set forth in the transfer admissions section below. Additionally, the applicant should complete, as far as possible, the courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the College of Liberal Arts and Sciences section. Completion of these courses and receipt of an AA degree does not guarantee acceptance to the College of Business Administration. Acceptance to the College of Business Administration will be based upon prerequisite courses completed and the student's earned grade point average.

A. Students attending four year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the Basic Curriculum for the Freshman and Sophomore years for students desiring to enter the College of Business Administration which is outlined in the College of Liberal Arts and Sciences section of this catalog. Prerequisite courses in business subjects during the first two years should be completed as indicated in paragraphs B.3 and B.4 below. Courses should not be taken during the first two years which are offered only at the upper division level at the University of Florida.

B. Junior College and Community College students should:

1. Complete the university transfer program at the junior college.
2. Complete the general education requirements established for the junior college.
3. Complete, insofar as possible, all of the courses which are prerequisities to any advanced professional work in the College. For specific courses required for a given major see listing in Liberal Sciences section of this Cafalog.
4. Complete the one-year course in economics at the junior college. Differences in the order of presenting material in basic one year courses make it highly undesirable to take parts of such courses in different institutions.
5. Choose elective courses needed to complete the total 64 semester hours in the university transfer program from such areas as mathematics, natural sciences, social sciences, foreign language, and humanities.
6. Avoid professional coursework that is available at the University of Florida only as 3rd and 4th year courses. TRANSFER STUDENTS ARE ADVISED TO AVOID SUCH COURSES AS BUSINESS LAW, PRINCIPLES OF MARKETING, PRINCIPLES OF MANAGEMENT, PRINCIPLES OF INSURANCE, PRINCIPLES OF REAL ESTATE, PERSONNEL MANAGEMENT, PRINCIPLES OF OF FINANCE, AND COMPUTER MANAGEMENT COURSES. A maximum of 4 semester credits may be allowed for courses taken during the first two years which are available only as third and fourth year professional courses in the College of Business Administration.

Any credit granted for such work will be in the form of undistributed elective credit without reference to specific courses taken, but in no case may such courses be in the student's major field. In the case where a student wishes to waive a core course and substitute a community college course, waivers may be granted on an individual basis but the student will be required to take another course in the area being waived The course will be specified by the Department Chairman of the area.

Provisional Admission: Within space limitations, students who do not meet precisely the admission requirements indicated in the appropriate section above may be granted provisional admission to the College of Business Administration. The Dean of the College of Business Administration will specify the courses to be completed and minimum grade points to be earned by the student during the term of his provisional admission. Provisional status will be removed and the student fully admitted to the College of Business Administration provided he fulfills the conditions set forth in his provisional admission. The student will be excluded from further enrollment in the College of Business Administration if he fails to satisfy the conditions of his provisional admission.

GENERAL REGULATIONS

STUDENT RESPONSIBILITY: The student must assume full responsibility for registering for the proper courses and for fulfilling all requirements for his degree. The student is also responsible for completing all courses for which he/she is registered.

Seniors must file formal application for a degree in the Office of the Registrar early in the semester in which they expect to receive the degree. The official calendar shows the latest date on which this can be done.

NORMAL LOADS: The average course load in the College of Business Administration is 15 credit hours. A student may be permitted to register for additional hours if in the opinion of the academic adviser and the Dean, the student's academic record justifies this. Students who wish to take less than 12 hours should be aware that certain university privileges and benefits require a minimum registration. It is the student's responsibility to verify the minimum registration necessary for these benefits.

RESIDENCE: The last 30 semester hours to be applied toward a degree must be completed in residence in the College of Business Administration. In special cases this requirement may be waived if the student has a 2.9 average or better, and his petition to take non-resident work has been approved in advance by the faculty of the College. In any case, no student may take more than 6 semester credit hours by extension or correspondence among the 60 semester credits of upperdivision work required for the baccalaureate degree, and such work must have prior approval for each individual student by the Petitions Committee of the College. However, courses to be included in the major field may not be taken by extension, by correspondence, or at another university for transfer.

SATISFACTORY-UNSATISFACTORY GRADE OPTION: An undergraduate student in the College of Business Administration may take on the S-U basis only those courses which will be counted as free electives in fulfilling the requirements for the BSBA degree.

PROBATION AND SUSPENSION: Students who do not make satisfactory academic progress may be excluded from further registration.

GRADUATION REQUIREMENTS:

To graduate from the College of Business Administration a student must satisfactorily complete the following:

1. 64 semester hours of lower division requirement.
2. A College approved program in his major field of study.
3. Elective requirements outside the student's major field (a maximum of 7 semester hours may be specified by major department).

A minimum of 124 (129 for Accounting) semester hours is required for graduation. The waiving of any required course does not reduce the hours required for graduation. A student must maintain an overall average of 2.0 and a 2.0 average on all courses which count toward the upper division degree requirements. (Accounting majors must also maintain a 2.0 average on all major course work.)

DEAN'S LIST AND GRADUATION WITH HONORS OR HIGH HONORS:

A student who carries 14 hours per semester with a grade

point average of 3.5 will have their name placed on the Dean's list for that quarter.

To graduate *With Honors*, a student must make at least a 3.2 average on all course work accepted as Upper Division credit and all course work (except as noted below) attempted while registered in the Upper Division. To graduate *With High Honors*, a student must make at least a 3.6 average on all work accepted as Upper Division credit *and* all course work (except as noted below) attempted while registered in the Upper Division. In calculating requirements for graduating *With Honors* or *With High Honors*, the following policies are followed: the student must have completed at the University of Florida at least 40 semester hours for Upper Division credit toward a degree in Business Administration, transfer credits and S-U grade credits will be excluded; and credits for Lower Division courses taken while registered in the Upper Division will be excluded.

GRADUATE DEGREES AND ADMISSION TO GRADUATE WORK

Courses are offered in the College of Business Administration leading to the degree of Master of Business Administration Master of Arts, and Doctor of Philosophy. For requirements for these degrees and for admission to Graduate School, consult the *Graduate School Catalog*.

CURRICULUM IN BUSINESS ADMINISTRATION

The upper division curriculum in Business Administration requires 90 quarter credits. The program centers around a core which is required of all students. In addition, each student is required to select one of the eight major fields as an area of concentration. The pattern of the Upper Division requirements is as follows:

Courses	Credits
QMB 3700 Quantitative Methods for Business and Economic Analysis	3
*ECO 3251 National Income Determinants and Policy	3
*ECO 3100 Prices and Markets	3
FIN 3403 Business Finance	4
MAN 3010 Principles of Management	3
MAR 3023 Principles of Marketing	3
BUL 4100 Business Law or BUL 4112 Business Law or ECP 4403 Government Regulation of Business	3-4
**COP 3110 Introduction to Computer Programming	2
**COP 3210 Computer Programming Using Fortran	2
Business Policy	3
Total Core Requirements	27-29

Students majoring in Economics are required to register for ECO 4205 and ECO 4101 instead of ECO 3251 and ECO 3100.

**Students majoring in Economics, Marketing, Insurance and Real Estate are required to register for COP 3110. Students majoring in Management and Finance are required to register for COP 3210. CIS majors will not be required to take COP 3110 or COP 3210.

OTHER UPPER DIVISION REQUIREMENTS

In addition to the upper division core just described each student must follow the curriculum pattern indicated below:

MAJOR FIELD

Required courses are listed under the appropriate "major" headings, beginning in the next section. Minimum requirements range from 12 to 20 hours depending upon major.

FREE ELECTIVES

Electives may be within or outside the College of Business Administration, but must be outside the major field. A maximum of 7 hours may be specified by major department. Maximum of 6 credits in Advanced Military Science may be counted toward free elective credit.

I. ACCOUNTING

(For Bachelor of Science in Accounting Degree Requirements, See Listing Under School of Accounting).

II. COMPUTER AND INFORMATION SCIENCES

This curriculm is designed to prepare students for technical and managerial positions in science in public and private organizations. The curriculum emphasizes three aspects pertinent to the student's professional career; the functions to which computers are applied in organizations, the professional skills for the design of computing applications, and the decision-making techniques for the efficient and effective utilization of computing resources.

Courses	Credits
COP 3121 Data Processing Languages	3
COP 3530 Data and Program Structures	4
CIS 4300 Information Resources	3
CIS 4321 Introductory MGT Systems	3
Balance of 5 to 6 credits in courses for approved list	5-6
Total	18-19

Students majoring in CIS are required to take the following courses:

AAC 4741 Info. Systems for Management Planning and Control	3
QMB 4703 Managerial Operations Analysis III or ESI 4523 Discrete System Sim	3
Total	6

III. ECONOMICS

This curriculum is designed to provide students with a basic core of courses in Economics, while, at the same time, enabling them to select their electives from among a wide variety of courses adapted to their needs and interests.

The economics major is required to substitute ECO 4205 and ECO 4101 for ECO 3251 and ECO 3100 in the College of Business core program. In addition, the major must complete 12-18 credit hours of economic courses that require ECO 2013 and ECO 2023 as prerequisites. For further information, contact a departmental adviser, Room 204, Matherly Hall.

IV. FINANCE

This curriculum is designed to give students a broad background in the business finance function with emphasis on analysis and the decision making process. The curriculum provides a general academic base in finance which can be useful for decision-makers in all aspects of business as well as more specialized courses that may be of interest to those students considering careers in commercial banking or other types of financial institutions. Students desiring a major in Finance must achieve a grade of C or better in FIN 3403, Business Finance.

Courses	Credits
FIN 4244 Money and Capital Markets	3
FIN 4414 Business Finance Topics	4
FIN 4504 Investments	3
and at least two of the following courses:	
FIN 4313 Financial Management of Financial Institutions	3
FIN 4514 Investment Analysis	3
FIN 4604 International Finance	3
Total	13-19

V. INSURANCE

The primary objective of the curriculum in risk and insurance is an understanding of risk—its varied forms, sources, and methods of treatment. The curriculum stresses decision making necessary in the management of personal, commercial, and social risks.

The courses provide useful background for business and non-business majors alike, whose interests require an understanding of the nature of risk and its treatment. Students who major in this program are prepared to seek positions in the administration of risk management programs of business and government, and the insurance industry.

Courses	Credits
RMI 3015 Risk and Insurance	3
RMI 4305 Risk Management	3
RMI 4135 Group Insurance and Pension Plans	3
Plus one of the following courses:	
FIN 4313 Financial Management of Financial Institutions	3
FIN 4504 Investments	3
RMI 4805 Estates, Trusts, and Insurance	3
Total	12

VI. MANAGEMENT

This curriculum is designed for students interested in overall management problems, industrial management, industrial relations or personnel management. By selection of appropriate courses, a student may obtain a solid basis of quantitative analysis of business and/or organizational behavior.

Courses	Credits
MAN 3151 Organization Behavior	3
MAN 4310 Problems in Personnel Management	4
MAN 4720 Business Policy	4
QMB 4703 Managerial Operations Analysis 3	3
and three additional courses from among the following:	
MAN 4052 Management Philosophy and Practice	4
MAN 4109 Applications in Organization Behavior	1-4
MAN 4110 Applications in Personnel Management	3
MAN 4201 Organization Theory and Design	4
MAN 4410 Collective Bargaining	4
QMB 4701 Managerial Operations Analysis 1	3
QMB 4702 Managerial Operations Analysis 2	3
Total	21-26

VII. MARKETING

This curriculum is designed to develop an understanding of the marketing and distribution system for goods and services, the social and economic forces which act on that system and on the determinants of consumer choice behavior. The program emphasizes analytical and behavioral science approaches to marketing management and consumer behavior.

Courses	Credits
MAR 3503 Consumer Behavior	4
MAR 4613 Marketing Research	4
MAR 4713 Marketing Management	4
and any one or two of the following courses:	
MAR 3203 Management of Channel Systems and Institutions	4
MAR 4243 International Marketing	4
MAR 4303 Promotional Strategy and Management	4
MAR 4403 Sales Management	4
MAR 4614 Research in Marketing and Consumer Behavior	4
MAR 4933 Special Topics in Marketing	4
Total	16-20

VIII. REAL ESTATE

This curriculum is designed to prepare students as real estate analysts. With this background graduates can enter a real estate business, a real estate department of a regional or national firm, a financial institution, or a state or federal governmental agency. Many graduates enter a specialized branch of real estate such as appraising, investment analysis, consulting, property management, mortgage lending, or marketing. The program stresses the use of modern concepts and technology in the solution of practical real estate problems.

Courses	Credits
REE 3043 Real Estate Analysis	4
REE 4100 Real Estate Valuation	3
REE 4204 Real Estate Financial Analysis	3
REE 4311 Real Estate Feasibility Analysis	5
REE 4430 Real Estate Law	3
Total	18

The student is required to take one course from the following list.

Course	Credits
BCN 1210 Construction Materials	3
ECP 5614 Urban Economics Prereq: ECP 2013-2023 and permission	3
MAR 3503 Consumer Behavior Prereq.: MAR 3023	4
MAR 4613 Marketing Research Prereq.: MAR 3023, QMB 3700	4
An advanced computer programming course as approved by student's advisor	2 to 4
Required electives	2 to 4

College of Dentistry

The College of Dentistry is one of the six colleges which constitute the J. Hillis Miller Health Center. The College of Dentistry, as well as the other units of the Health Center, is an integral component, both geographically and functionally, of the University of Florida. Many conjoint projects between the College and other units of the Health Center and University have been formulated and implemented.

The 1957 Florida Legislature authorized the development of a College of Dentistry in Gainesville, but it was not until the late 1960's that faculty members were recruited and program development initiated.

The thirteen departments which make up the College of Dentistry are Basic Dental Sciences, Community Dentistry, Dental Biomaterials, Dental Education, Endodontics, Occlusion and Fixed Prosthodontics, Operative Dentistry, Oral Medicine, Oral and Maxillofacial Surgery, Orthodontics, Pediatric Dentistry, Periodontics, and Removable Prosthodontics. A modular curriculum has been developed based on multidisciplinary teaching by these departments. The curriculum is designed to permit students the maximal degree of flexibility and individualization in their program. It is a competency-based curriculum in which behavioral objectives, rather than time, serve as the primary guidelines for student advancement. The length of time in the curriculum is flexible but students must complete at least one-twelfth of the total curriculum each semester. The self-paced curriculum is planned so that a student may complete the program in less than four years. Self-instruction constitutes a significant part of the teaching methodology.

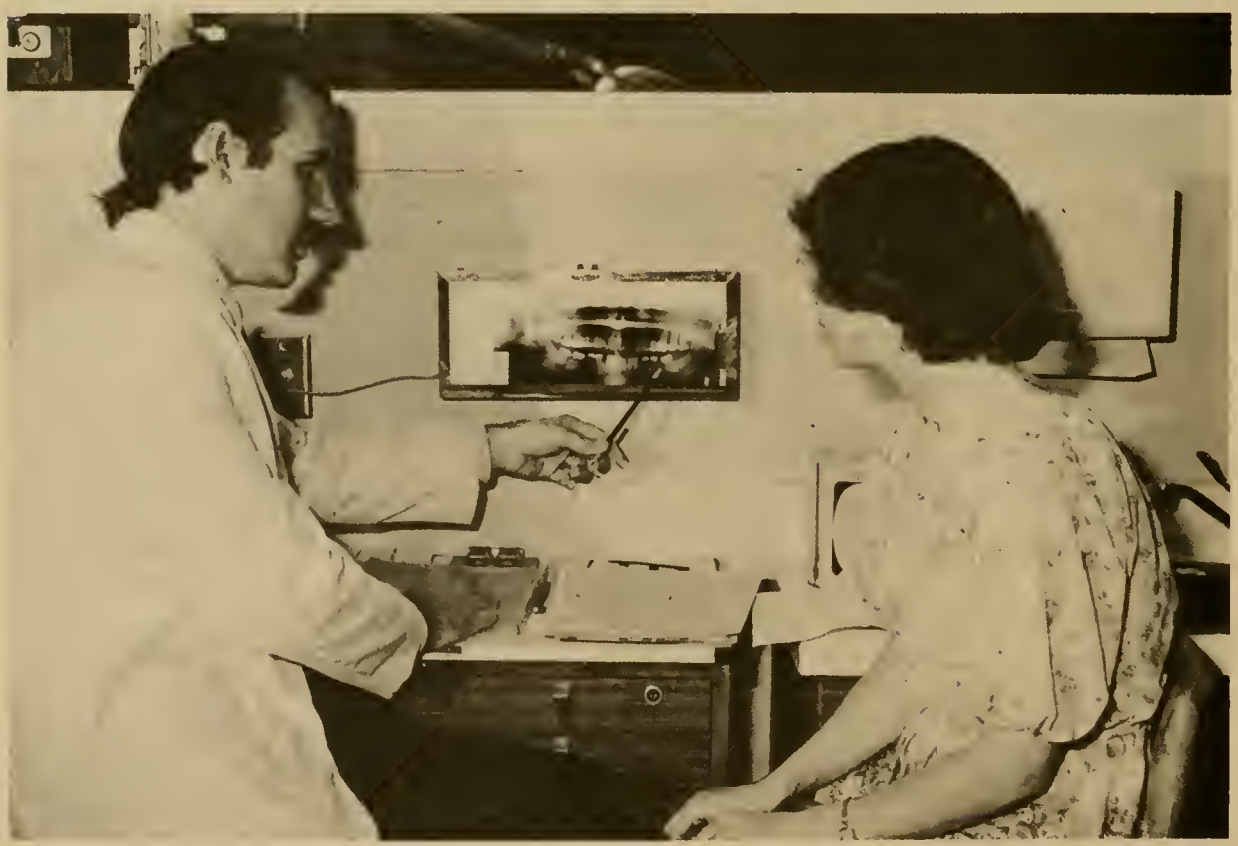
The goals of this College are to prepare the graduate to enter private dental practice, to enter graduate programs of any of the dental specialties, to enter into research activities, and to be prepared for a lifetime of continuing education.

The Dental Sciences Building was first occupied in August, 1975, and was officially dedicated March 6, 1976. The first class of students was graduated in 1976. The College offers the Doctor of Dental Medicine (D.M.D.) degree. (The D.M.D. and D.D.S. degrees are synonymous.) The College presently offers Advanced Educational programs in Dental Public Health, Oral Pathology, Orthodontics, and Periodontics. In addition, a one-year General Practice Residency program and a three-year Oral and Maxillofacial Surgery Residency program are available.

The College of Dentistry aspires to attract students of the highest caliber into its various programs. High standards of scholastic achievement, moral character, and motivation are expected of the applicant. The student of dentistry must possess a high basic aptitude supplemented by an academic preparation of the highest order because of the vast area of science which must be mastered by the dentist. The highly personal relationship between patient and dentist places the latter in a position of trust, which demands maturity, integrity, intellectual honesty, and a sense of responsibility. A broad representation of the ethnic mixture of the state is sought in the student body through an active recruitment program. The College strictly adheres to the principle of ethnic, racial, sexual, religious and social equality among its student body and faculty.

Generally, students applying for admission should plan to complete the requirements for a bachelor's degree. However, outstanding students may be accepted without fulfilling the degree requirements, provided they show evidence of sufficient academic preparation and the personal characteristics necessary for the study of dentistry. Applicants with an overall B average as a minimum will receive strongest consideration for admission to the College of Dentistry. A limited number of out-of-state students, in proportion to the number in the University as a whole, may be admitted. Applicants should initiate the application process approximately fifteen months prior to anticipated enrollment by submitting an application through the centralized American Association of Dental Schools Application Service (AADSAS), P.O. Box 4000, Iowa City, Iowa 52240.

Further detailed information will be found in the College of Dentistry Bulletin. Copies may be obtained by writing to the Office of Admissions, College of Dentistry, University of Florida, Box J-445, JHMHC, Gainesville, Florida 32610.



ADMINISTRATION AND SUPERVISION
COUNSELOR EDUCATION
FOUNDATIONS
GENERAL TEACHER EDUCATION
INSTRUCTIONAL LEADERSHIP AND SUPPORT
SPECIAL EDUCATION
SUBJECT SPECIALIZATION TEACHER EDUCATION

College of Education

GENERAL STATEMENT

The College of Education, a professional college, has as its purpose the preparation of qualified personnel for positions in service, leadership, and research in education. The College of Education is the officially designated unit of the University of Florida that is responsible for teacher education programs. University teacher education programs are approved by the State Department of Education and the National Council for Accreditation of Teacher Education.

The College of Education has undergraduate programs leading to the preparation and certification of teachers in elementary education, secondary education, and K-12 programs in art and special education (mental retardation). Programs of study in guidance and counseling, school administration, and college teaching are available at the graduate levels only. Undergraduate students interested in these areas will usually complete their bachelor's degree in one of the teaching fields found on the following pages.

Classroom teaching is only one of the many careers available to graduates from the College of Education. School administrators, supervisors, counselors, school social workers, school psychologists, attendance workers, speech therapists, and reading clinicians are among the many careers found in education. Other career opportunities for those having degrees in education are in the areas of development and distribution of educational materials, educational television, personnel work, counseling, foreign service, peace corps, as educational specialists and training officers in industry, and in educational research.

The University of Florida teacher education programs are designed to assist students with developing three broad areas of competence: (1) *general preparation* consisting of a background of liberal education; (2) the *professional* sequence consisting of work in psychological and social foundations of education, the school program, and internship or student teaching; and (3) the *teaching field* or specialization in the area of subject matter to be taught.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Education encourage applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this College. It should be understood, however, that minimum requirements are given and that admission to this College is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. A student's total record, including educational objectives, pattern of courses previously completed, quality of previous academic record, and test data, will be considered in evaluating an application for admission. Priority for admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested.

Teacher education programs at the University of Florida have been approved by the State of Florida Department of Education. Each teacher education program of an institution of higher learning within the state which has been approved by the Department of Education shall require, as a prerequisite for admission into the teacher education program, that a student shall receive a composite score of seventeen (17) on the American College Test or a composite score of eight hundred thirty-five (835) on the Scholastic Aptitude Test. This requirement may be waived, by petition, for up to 10 (10) percent of those admitted to the teacher education program.

Students Classified UF: Students classified UF should apply for admission to the College of Education during the semester in which they are completing 64 hours of work. Applications should be filed in both the Registrar's Office and the College of Education Office of Student Services, Room 134 Norman Hall. To be considered for admission to the College, students will be required to:

1. Complete one of the basic programs outlined in the College of Liberal Arts and Sciences section of the catalog under Education. Students classified UF with transferred credit from other institutions will be required to take comprehensive courses according to the College of Liberal Arts and Sciences regulations.
2. Applicants must have a University of Florida G.P.A. of at least 2.5, and an overall G.P.A. of at least 2.5. Applicants for a program in Audiology and Speech Pathology must have a University of Florida G.P.A. of 2.8, and an overall G.P.A. of at least 2.8.
3. Applicants must have a composite score of seventeen (17) on the American College Test or a composite score of eight hundred thirty-five (835) on the Scholastic Aptitude Test.
4. Meet minimum standards of physical and mental health.
5. Have the approval of the Committee on Admissions of the College of Education. The Committee will review the application of each candidate with respect to qualities considered to be essential for effective teaching. The student is expected to speak and to write the English language effectively.
6. Applicants who do not have the necessary G.P.A. and/or test score may petition for admission.

Transfer Students:

A. From other upper division colleges, University of Florida

University of Florida students desiring to transfer from an upper division college to the College of Education must file applications with both the Registrar's Office and the College of Education Office of Student Services. To be considered for admission applicants will be expected to meet the requirements for admission outlined above for students classified UF.

B. From other institutions

To be eligible for admission to the College of Education, a transfer student must satisfy the minimum requirements for admission to an Upper Division College that are set forth in the ADMISSIONS section of the catalog. Additionally, the applicant must satisfy the following specific requirements for admission to the College of Education:

1. Complete a personal data sheet for permanent records in the College of Education.
2. Meet general preparation requirements (See General Preparation section for College of Education).
3. Applicants must have a University of Florida G.P.A. of at least 2.5, and an overall G.P.A. of at least 2.5. Applicants for a program in Audiology and Speech Pathology must have a University of Florida G.P.A. of 2.8, and an overall G.P.A. of at least 2.8.
4. Applicants must have a composite score of seventeen (17) on the American College Test or a composite score of eight hundred thirty-five (835) on the Scholastic Aptitude Test.
5. Meet minimum standards of physical and mental health.
6. Have the approval of the Committee on Admissions of the College of Education. The Committee will review the application of each applicant with respect to qualities considered to be essential for effective teaching. The student is expected to speak and write the English language effectively.
7. Applicants who do not have the necessary G.P.A. and/or test score may petition for admission.

The following information will serve as a guide in expediting transfer of a junior college student to the College of Education in compliance with the above requirements. The junior college transfer student must:

1. Complete the Associate of Arts degree program at the junior college.
2. Complete the general education requirements established for the junior college
3. Applicants must have a University of Florida G.P.A. of at

least 2.5, and an overall G.P.A. of at least 2.5. Applicants for a program in Audiology and Speech Pathology must have a University of Florida G.P.A. of 2.8, and an overall G.P.A. of at least 2.8.

4. Applicants must have a composite score of seventeen (17) on the American College Test or a composite score of eight hundred thirty-five (835) on the Scholastic Aptitude Test.

5. Avoid courses in professional education. All required professional education courses must be taken in the College of Education.

6. Applicants who do not have the necessary G.P.A. and/or test score may petition for admission.

In addition to the above requirements, students are advised to:

7. Complete work in the following areas:

	Semester Hours
English Composition	6
Social Sciences	6
Humanities	9
Mathematics	3
Science (to include work in both physical and biological sciences)	9
Behavioral Studies	3

8. Choose elective courses to complete the required 64 semester hour total in the university transfer program in the basic areas of general or liberal education fields. Students majoring in secondary education may earn credit in their teaching field at the junior college in courses which are equivalent to the 1000 and 2000 level courses at the University of Florida. Students enrolling in the College of Education are not required to take a foreign language. Students who enroll in Teacher Education in the College of Liberal Arts and Sciences must satisfy the foreign language requirements of that College.

9. Complete a course in public speaking.

BASIC SKILLS ASSESSMENT

All College of Education students will take a basic skills assessment examination during their first quarter in the college. This examination includes sections on mathematics, reading and writing. A student must have a successful score on all sections of the basic skills assessment examination prior to admission to the internship experience.

ADMISSION TO PHASES OF THE TEACHER EDUCATION PROGRAM

I. Admission to the Teacher Education Program for students enrolled in the College of Liberal Arts and Sciences.

Students in the College of Liberal Arts and Sciences who wish to enroll in a Teacher Education Program must make application for admission to the program. Application forms may be obtained in Room 134 Norman Hall.

Application should be made as soon as possible after admission to the College of Liberal Arts and Sciences; application to the program cannot be made before a student has been accepted into the College of Liberal Arts and Sciences. The student must be admitted to the Teacher Education Program before he can apply for the Advanced Professional Sequence.

The criteria used in considering students from the College of Liberal Arts and Sciences for the Teacher Education Program will be the same as those used for admitting students into the College of Education

II. Admission to the Advanced Professional Sequence

A student who proposes to enter a Teacher Education Program, whether through the College of Education or one of the cooperating colleges, must be admitted to the Advanced Professional Sequence prior to enrollment in certain professional courses. For K-12 Education programs this is EDE 4203 and ESE 4001, for Secondary Education this is ESE 4210, for Special Education this is at the time of enrollment for the second methods course, and for Childhood Education this is prior to the third semester in the program.

Admission to the Advanced Professional Sequence requires:

1. A special application submitted to the College of Education Office of Student Services, Room 134 Norman Hall, no later than one month prior to the proposed registration for the courses indicated above. Admission to the College of Education is not to be interpreted as automatic admission to the Advanced Professional Sequence.

2. Enrollment in an upper division college.

3. Completion of the general preparation requirements. (See General Preparation).

4. Completion of the speech requirement by successfully completing a public speaking course or by passing the speech screening examination administered by the Speech Department. All English, Language Arts and Health Education students must meet this requirement by completing the speech course.

5. A planned program on file in Room 134, Norman Hall.

6. A picture on file in Room 134, Norman Hall.

7. A "C" average or better.

8. A "C" average, or better, in specific professional courses and in the area of specialization.
Special Education majors, and Secondary Education majors in either the College of Education or the College of Liberal Arts and Sciences should note that no grade less than "C" meets a requirement in the professional education courses or in the field of specialization.

9. Students in Elementary Education and Early Childhood Education must complete successfully a reading screening examination.

III. Admission to Student Teaching in any Teacher Education Program

Assignments to student teaching for each semester are made by the College of Education Office of Student Services. Students in the College of Education are assigned a semester for student teaching when they are admitted to the College Students from the College of Liberal Arts and Sciences are assigned a semester for student teaching when they are admitted to the Teacher Education Program. Students in other colleges should see the Coordinator of Undergraduate Studies, Room 134 Norman Hall, for a student teaching semester as early in their junior year as possible.

Prior to acceptance to student teaching in a Teacher Education Program, a student must have fulfilled the following requirements:

1. Have completed all general preparation requirements.

2. Have satisfied the speech requirement

3. Have at least a "C" average in all course work at the University of Florida, the area of specialization courses, and professional education courses. Foreign Language majors must demonstrate proficiency in all languages for which they seek certification

4. Teacher Education students in the College of Education and the College of Liberal Arts and Sciences must have completed, successfully, all sections of the Basic Skills Assessment Test prior to admission to student teaching.

5 Have been admitted to the Advanced Professional Sequence and have completed the following work:

(a) Elementary — MUE 2402 and MUE 3401; HES 3301 and PET 3462; ENG 4161; EDE 3804; RED 4147; and MAE 3811.

(b) Teaching Fields K-12 — EDF 3110; EDE 4203; ESE 4011; at least two-thirds of the coursework in the teaching area in which student teaching is to be done and the following courses:

Art: ARE 4242, ARE 4243, ARE 4244
Health Education. HES 2000, 2001, 3301, 4302, PET 3320, and APB 2170
Music: MUE 3113, 3320, 3030, 4412, 4411 or 4404
Special Education. EEX 3010, EMR 3011, EEX 3220, EMR 3800, EMR 4202, 4330, 4214, SPA 3001
Physical Education. PET 3461 and 4442

(c) Secondary—At least 9 hours in education, including EDF 3135 or EDF 4210, ESE 4210, and a methods course in

the area of specialization, and at least three-fourths of the coursework in the teaching area in which student teaching is to be done.

Students must make special application to the Director of Student Teaching, Room 100 Norman Hall. Applications must be received no later than March 15 for the Fall Semester and October 1 for the Spring Semester.

Students have the responsibility for making arrangements to live in the community where student teaching is to be done and to assume living expenses in addition to regular on-campus expenses.

GRADUATION REQUIREMENTS

To graduate from the College of Education a student must satisfactorily complete the following:

1. Forty-five semester hours of general preparation.
2. A College approved program in his major field of study.
3. Required professional education courses appropriate to his field of study.
4. Speech requirement.
5. Successful completion of all sections of the Basic Skills Assessment Examination.

A minimum of 125 semester hours is required for graduation. A student must maintain at least a 2.0 overall grade point average and have at least a 2.0 average in all professional education courses and in his area of specialization. In the departments of Subject Specialization and Special Education, grades below "C" will not fulfill requirements in either professional education or in the area of specialization.

TEACHER CERTIFICATION

An applicant for initial regular certification in Florida must receive a passing score on a teacher certification examination administered by the State Department of Education prior to regular certification. After July 1, 1982, an applicant for initial regular certification in Florida must complete a beginning teacher program or have three years of satisfactory teaching experience prior to regular certification.

Applications for Florida teacher certification are available in the College of Education Office of Student Services, 134 Norman Hall.

GENERAL PREPARATION

The minimum requirements in general preparation for all undergraduate Education Programs are:

	Semester hours
Social Sciences	6
English Composition	6
Humanities	9
Physical Sciences and Biological Sciences	9
Mathematics	3
Behavioral Studies	3
Electives in general preparation	9

*Three of the four comprehensive science courses or appropriate substitutes are required.

Students classified UF making substitutions and using transfer credit from other institutions will be required to take comprehensive courses according to College of Liberal Arts and Sciences regulations. Students transferring into the upper division of the College of Education as Juniors and Seniors are expected to have completed comparable comprehensive courses or to have taken appropriate substitutes.

PROFESSIONAL EDUCATION

Elementary Programs Include:	Credits
EDE 3804	35
EDE 4943	11
RED 4147	3

Special Education (Mental Retardation) Programs Include:

EDF 3110 or 3122 or 3135 or 4114 or 4210	3
EDF 3514 or 3604 or 4542 or 4710	3
EEX 3010, EMR 3011, EMR 3800, EEX 3220, EMR 4202, 4230, 4214, SPA 3001, EPH 4033	33
EEX 4861	11
RED 4147 and MAE 4350	6

Music Education Programs Include:

EDF 3122 or EDF 3135 or EDF 3110	3
EDF 3514 or 3604 or 4542 or 4710	3
EDE 4203 and ESE 4011	6
EDE 4943 and ESE 4943	10

Other Kindergarten through Twelfth Grade Programs Include:

EDF 3110	3
EDF 3514 or 3604 or 4542 or 4710	3
EDE 4203 and ESE 4011	6
ESE 4943 (Art)	11
EDE 4943 and ESE 4943 (Physical Education)	10
ESE 4943 (Health Education)	10
EEX 3010 and EEX 4141 (Speech Therapy)	4

Secondary Education Programs Include:

EDF 3135 or 4210	3
EDF 3514 or 3604 or 4542 or 4710	3
ESE 4011	3
ESE 4210 and an appropriate methods course	6
ESE 4943 or EVT 4940	11
Elective in Education (College of Education students only)	1-3

ACADEMIC ADVISORY SERVICES

To assist students in their educational and vocational planning the College of Education maintains an Advisory Panel composed of faculty members representing the various teaching fields. In addition to the Advisory Panel other advisory facilities include the College of Education Office of Student Services, the Office of Student Teaching, and the Placement Service in the Reitz Union.

GENERAL REGULATIONS

PLANNED PROGRAMS

Before the end of the first term of enrollment in the College of Education, the students should plan a program for the remainder of work required for his degree. All planned programs must have the approval of the student's counselor and the Coordinator of Undergraduate Studies.

Each student is responsible for registering for the proper courses and fulfilling all requirements for his degree. Courses can be dropped or changed without penalty *only* upon approval of the counselor, the College of Education Office of Student Services, and the Registrar.

LOADS

Sixteen semester hours is considered a normal load. A student may be permitted to register for additional hours if, in the opinion of his counselor, the quality of his record justifies this. At the time of registration, a student, with the approval of his counselor, may register for less than sixteen semester hours if conditions warrant this.

DEADLINES

Graduating Seniors must file an application for a degree in the Office of the Registrar early in the semester in which they expect to receive the degree. The University calendar shows the latest date on which this can be done.

Students applying to enter the Advanced Professional Sequence must file an application in the College of Education Office of Student Services 30 days prior to registration in these courses.

Student teaching applications are available from the Director of Student Teaching, Room 100, Norman Hall and are due March 15 for Fall Semester student teaching and October 1 for Spring Semester student teaching.

RESIDENCE

The last 30 semester hours to be applied toward a degree must be completed in residence in the College of Education. In special cases this requirement may be waived by petition when a student has completed most of his previous work in upper division of the College of Education.

No part of the teacher preparation program can be taken by correspondence, home study, or extension unless such courses have been planned with the student's upper division counselor and approved by the College of Education Office of Student Services. In addition to these requirements University regulations pertaining to correspondence and extension work apply to College of Education students.

PETITIONS

If a student feels that the College regulations cause a peculiar hardship or injustice in his case, he may petition for waiver of the particular regulation. The student should contact his adviser or the College of Education Office of Student Services regarding this procedure.

UNDERGRADUATE REGISTRATION IN GRADUATE COURSES

With the permission of the instructor, an undergraduate student in the College of Education may enroll in 5000 or 6000 level courses if he has Senior standing and an upper division grade point average of at least 2.8. His registration during any term for which he is enrolled in a graduate course may not exceed 17 hours. Graduate fees are charged for 5000 and 6000 level courses. After a student has been accepted in the Graduate School, up to 6 hours of graduate-level courses earned with a grade of A, B+, or B taken under this provision may be applied toward a graduate degree at the University of Florida provided credit for the course has not been used for an undergraduate degree.

MUSIC ENSEMBLE CREDIT

Undergraduate majors in education may count 4 hours of music ensemble credit toward graduation.

DEGREES OFFERED

The degrees Bachelor of Arts in Education and Bachelor of Science in Education are offered in the College of Education. The Bachelor of Science in Educaton Degree is granted to students whose area of specialization is in science or mathematics; other curricula lead to the Bachelor of Arts in Education Degree.

HONORS

To graduate from the College of Education with honors, the student will be required to earn on all college work an academic average of 3.2 for honors and an average of 3.5 for high honors. He must have earned at least 60 credits, with the appropriate average, at the University of Florida.

Kappa Delta Pi (men and women) and Pi Lambda Theta (women) are honor societies in education. Membership is by invitation.

SCHOLARSHIP AND LOANS

The College of Education Office of Student Services has information about very limited scholarship and loan funds available in the College of Education. Information regarding other financial aid of undergraduate students may be obtained from the Office of Student Financial Aid.

GENERAL TEACHER EDUCATION

The Elementary Education Program is an innovative approach to the professional preparation of educators. The program is based upon four major assumptions: that a person learns best when (1) learning is made personally meaningful and relevant, (2) learning is adjusted to the rates and needs of the individual, (3) there is a great deal of self direction, and (4) there is a close relationship between theory and practice.

Aside from the 20 semester hours of required courses listed below, there are no courses as such in the Elementary Program. Instead, each semester in the program, the student enrolls in the appropriate section of professional studies in education (EDE 3804), for a variable number of hours to total 35 by the completion of the program. In addition, the student will register for a total of 11 semester hours in EDE 4943 —Student Teaching in the Elementary School.

Each semester the professional studies will comprise participation in (a) *seminar* — a small discussion group which gives continuity and direction to the program by providing students with a place to share their meanings and problems in interaction with their peers while building a personal educational belief system; (b) *study of content* selected from among the following areas (each of which must be mastered by graduation) curriculum, language arts, math, reading, science, social studies, art, human growth and development and music. In each areas, students pace their own progress, attend special lectures, participate in small study groups or workshops, and pursue independent study; (c) an *appropriate field experience* carried out in a local public or private school or community agency.

Students' work within the program is graded on a Satisfactory-Unsatisfactory (S-U) basis. The student continues his work in a given learning area until he demonstrates satisfactory competence in the area.

ELEMENTARY EDUCATION

(Grades one through six)

The program in Elementary Education will provide academic and field learning activities which place emphasis on the development and teaching of the child from age six through age twelve.

The four semester professional program for elementary education includes:

	Credits
1) Professional Studies in Childhood Education (EDE 3804)	35
2) EDE 4943—Student Teaching in the Elementary School	11
3) RED 4147	3
4) Courses taken outside the College of Education:	
MUE 2402—Music Skills	3
MUE 3401—Music for the Elementary Child	3
PET 3462—Elementary School Physical Education for the Classroom Teacher	2
HES 3301—Elementary School Health Program	3
LIT 4331—Children's Literature	3
MAE 3811—Mathematics for Elementary School Teachers	2
5) Additional elective hours as necessary to meet the minimum graduation requirement of 125 hours, and to have at least 79 semester hours outside the Childhood Education Program.	

Early Childhood certification may be earned by completing the Elementary Education program as shown above with the following: Seven semester hours credit in EEC 3800 in the areas of art, curriculum, language arts, mathematics, reading, science, and social studies. Four semester credits of EEC 3800 —Seminar should be substituted for four credits of EDS 3804 —Seminar. Appropriate field experience in kindergarten and nursery schools are required.

HEALTH EDUCATION/DRIVER EDUCATION AND SAFETY

These are joint programs with the College of Physical Education, Health and Recreation and are designed to prepare teachers (1) to teach health and related health sciences; or, (2) to teach driver and safety education.

HEALTH EDUCATION

Admission: In addition to general education requirements for the major in health education specified in the section on *Curriculum in Health Education*, students should complete as many of the following preprofessional courses as possible during freshman and sophomore years:

HES 2000 Personal and Family Health	3
HES 2001 Community and Environmental Health	3
HES 3404 Instructors First Aid	3
CHM Chemistry	3
SOC 2000 Principles of Sociology	3
PSY 2013 General Psychology	3
APB Microbiology with Lab	4

JUNIOR YEAR

EDF 3110 Human Growth and Development	3
EDF 3604 Social Foundations of Education	3
HES 3934 Seminar in Health Education	1
HES 3144 Medical Terminology	2
HES 3431 Safety Education	2
PET 3320 Applied Human Anatomy w/lab	3
PET 3350 Applied Human Physiology w/lab	3
STA 3013 Statistics for Social Science	3
Elective Health Sciences	4
*Electives for concentration area(s)	8
Total	32

SENIOR YEAR

HES 4945 Health Counseling and Public Health Field Experience	4
HES 4302 Methods and Materials in Health Education	3
HES/ESE Student Teaching/Community Health Education Internship	15
*Concentration area requirements	6
Health content electives	4
Total	32

DRIVER AND SAFETY EDUCATION

Admission: Those wishing to add Driver and Safety Education to their Florida Teaching Certificate as an additional teaching field may do so by completing the following courses:

HES 3431 School and Community Safety Education	2
HES 4450 Driver and Traffic Safety Education	3
HES 4451 Teach. Driver and Traffic Safety Education	3
Total	8

MIDDLE SCHOOL EDUCATION

The Middle School Education Program is a 11 semester hour block composed of EDM 6005, 3 semester hours and, EDM 6945, 8 semester hours. Upon successful completion of the program, students will be eligible for Middle School certification in one or more of the following areas: Language Arts, Mathematics, Science, or Social Studies.

Students interested in Middle School Education should be aware of the extensive requirements in this program. These requirements include:

1. A course in Reading.
2. The successful completion of an undergraduate program in Early Childhood, Elementary, or Secondary Education.
3. At least 10 semester hours beyond general preparation requirements in Language Arts, Mathematics, Science, or Social Studies.

Specific subject area requirements include:

LANGUAGE ARTS

At least one course in grammar or linguistics.
At least one course in composition.
At least one course in American literature, world literature, speech, drama, or journalism.

MATHEMATICS

At least two courses in the area of mathematics for the elementary, middle, or junior high school; or the equivalent of such courses. Other courses from algebra, geometry, calculus, statistics, or computer science.

SCIENCE

At least one course in either chemistry or physics.
At least one course in biology.
At least one course in geology.
Others from agronomy, astronomy, anthropology, entomology, food science and human nutrition, forest resources and conservation, health.

SOCIAL STUDIES

At least one survey course in American History.
At least one survey course in the history of the following world areas: Western Europe, Russia, Africa, Latin America, Asia.
At least one course from each of two of the following areas: Anthropology, Political Science, Geography, Sociology, Economics, Social Psychology.

Additional information about the Middle School Program can be obtained in Room 134, Norman Hall.

MUSIC EDUCATION

The College of Education and the College of Fine Arts offer a joint program leading to certification in music education for teaching in kindergarten through twelfth grade. Students may enroll either in the College of Education or the College of Fine Arts.

Piano Skills MVK 2111, must be taken each quarter until piano proficiency examination is passed; requirement must be met before application for the Advanced Professional Sequence.

A Mid-Point Guidance Conference must be completed no later than the end of the Junior Year.

A student will be allowed to make application for Student Teaching only if he has an over-all grade point average of at least 2.5.

The grade of C or better is required in all Music Education Courses. The teaching of reading requirement is met in the courses MUE 3113 and 3030.

University of Florida students should take EDF 3110 or 3135 in the Spring Semester of their sophomore year. Transfer students should take the course prior to enrolling for EDE 4203 or ESE 4011.

JUNIOR YEAR

Music Performance Area	Credits
Applied Principal, Incl. Recital	6
MUE 2440, 2450, 2460, 2470 Instrumental Skills	4
Ensemble	1
Courses	
MUH 3211, 3212 History of Music	6
MUE 3113, 3030 Music Education	8
MUG 4101 General Conducting	2
EDF 3514 or 3604 or 4542 Foundations of Education	3
Biological Science	3
Physical Science	3
Total	36

SENIOR YEAR

Music Performance Area	*Credits*
**MUE 2450 Woodwind Skills	1
**MUE 2460 Brass Skills	1
MUG 4102 or 4201 Materials and Instrumental or Choral Conducting	2
MUE 4152 Administration of Music Education	2
EDE 4203 Elementary School Today	3
HUM Humanities	3
*ESE 4011 Secondary School Today	3
EDE 4943 or ESE 4943 Student Teaching	10
Elective: ORI 2001 Oral Performance of Literature	3
Biological or Physical Science	3
Total	31
Total minimum credits	131

*Advanced Professional Sequence

**Choral (emphasis) Majors will take General Music (MUE 2403) in lieu of Brass Skills and Woodwind Skills.

PHYSICAL EDUCATION

The College of Education and the College of Physical Education, Health, and Recreation offer joint programs to prepare men and women physical education teachers. While enrolled in the Lower Division of Liberal Arts and Sciences all students should complete as many as possible of the following required courses: (See College description of curriculum requirements)

PET 3320, 3320L, 33S0, 33S0L
HES 2000, 2400
SPC 2300 or 3601

UPPER DIVISION COURSE REQUIREMENTS

General Professional Physical Education Core:

Credits	
PEP 2131 Weight Training & Conditioning	2
PET 3590C Professional Seminar in P.E.	2
PET 3127 American PE & Sport	3
PET 3340C Kinesiology of Motor Skills	2
PET 3360C Physiology of Exercise and Training	2
PET 3230C Theory of Skill Acquisition and Motor Development	3
PET 3640C P.E. for the Handicapped	3
PET 4415 Administration of P.E.	2
PET 4510C Measurement and Evaluation with Lab	3
PET 4622C Prevention and Care of Athletic Injuries	3

Professional Education Core:

Credits	
EDF 3110 Human Growth and Development	3
EDF 3604 Social Foundations of Education	3
EDE 4203 Elementary School Today	3
ESE 4011 Secondary School Today	3
ESE 4943 Student Teaching	10

Professional Physical Education Teaching Core:

Credits	
PEO 1011C Team Sports I or PEO 3621 Team Sports II	3
PEP 1301C Track and Field Teaching Methods	2
PEQ 1121C Aquatics Teaching Methods	2
PEP 2201C Gymnastics Teaching Methods	2
PET 3461C Elementary Physical Education	3
PET 4442C Physical Education in the Secondary School	3

Elementary School Specialization: This curriculum is designed to prepare specialists in Elementary School Physical Education with certification for grades K-12. Courses required in this specialization are:

Credits	
DAE 3370 Rhythmic Activities and Movement Education, K-5	3
PEO 3041C Games and Sports for Elementary School Children	3
PEP 3203C Educational Gymnastics for Elementary School Children	3

Secondary School Specialization: This curriculum is designed to prepare specialists in Middle School and High School Physical Education with certification in grades K-12. Courses required in this specialization are:

Credits	
DAE 2360 Folk, Social and Aerobic Dance	3
PEO 2031 Recreational Activities I or PEO 2032 Recreational Activities II	3
PEP 2401C Combatives Teaching Methods or DAE 2320 Modern Dance Teaching Methods	2-3

Non-Degree Concentrations through Physical Education:

The Department of Professional Physical Education offers areas of concentration in Coaching and Dance. These concentrations are non-degree programs. Students may refer to the Professional Physical Education curriculum under the College of Physical Education, Health and Recreation portion of this catalog.

SPECIAL EDUCATION

The bachelor's degree in special education, with a major area of concentration in mental retardation, is offered through the Department of Special Education.

No course in which the grade earned is below "C" meets a requirement in this program.

Required Upper Division Courses	*Credits*
Introduction to Special Education EEX 3010, EMR 3011, SPA 3001	9
Foundations of Education EDF 3110 (or 3122, 3135, 4144, 4210) and EDF 3604 (or 3514, 4542, 4710)	6
Special Education EEX 3220, EEX 3601, EMR 3800 (taken twice), EPH 4033, EMR 4202, EMR 4214, EMR 4330	24
Teaching Skills RED 4147, MAE 4350	6
Student Teaching — EEX 4861	11-22

Competencies

Each of the listed competencies must be achieved prior to internship. The basic skills competencies (#4) must be completed prior to enrollment in EMR 4202. The competencies must be verified in Room 134 by use of the appropriate form to be kept in the student's official folder.

1. First Aid
The student must have a valid current certification in first aid or must have successfully completed HES 2400.

2. Audio Visual
The student must have completed the modules entitled "Equipment Operation" and "Production of Materials" in the Educational Media Center, Norman Hall.

3. Public Speaking
The student must have demonstrated competency in public speaking by completing a public speaking test. These tests will be given once per quarter by the department.

Core Electives
ARE 3312, ART 3100, BES 2132, DEP 3003, DEP 4204, DEP 4704, EDF 3110, EDF 3122, EDF 3135, EDF 3514, EDF 3604, EDF 4114, EDF 4210, EDF 4430, EDF 4542, EDF 4710, EDF 4780, EED 4011, EEX 4905, EGC 4033, EIA 3291, ENG 4161, ENG 4163, EPH 4033, ESE 3034, EVT 3065, EVT 3365, EVT 4302, HES 2000, HES 2400, HES 3144, HES 3301, HES 3404, HES 3431, HES 4302, HES 4450, HES 4451, HES 4540, HES 4561, LEI 4760, LEI 4770, LIN 3710, MAF 2200, MUE 2402, MUE 3113, MUE 3320, MUE 3401, PEO 3041, PET 3640, PEQ 2126, SED 4335, SPC 2300, SPC 2330, SPC 3601, STA 3013, STA 3023, VEC 3200 12

Major fields of concentration in other areas of special education are available only at the graduate level. Students interested in such areas as learning disabled, emotionally dis-

turbed, and/or physically handicapped children should consult with staff members in special education concerning electives at the undergraduate level.

SUBJECT SPECIALIZATION TEACHER EDUCATION

The Department of Subject Specialization Teacher Education is composed of the following specializations: art education, audiology and speech pathology, business education, foreign language education, mathematics education, music education, psychology education, science education, and social studies education. Degree programs in these specializations are available at the undergraduate (BAE and BSE) level and graduate level (MAE, MEd, EdS, EdD and PhD) through the Department of Subject Specialization and/or the Division of Curriculum and Instruction with these exceptions: (1) audiology/speech pathology and psychology education are available at the undergraduate level only; (2) music education is available at the graduate level only; and (3) business education is available at the advanced degree level only.

Post baccalaureate students seeking teacher certification must complete the same program requirements expected of undergraduate students in teacher education programs offered by the department. These students can be enrolled in only one program area.

ART EDUCATION

Florida teachers are certified to teach art in kindergarten through the twelfth grade. Students may enroll in either the College of Education or the College of Fine Arts.

Foundations of Education:	Credits
EDF 3130 or 4210	3
EDF 3514 or 3604 or 4542 or 4710	3
General Curriculum:	
EDE 4203	3
ESE 4011	3
ART:	
*Preprofessional (ART 1201-1203, ART 1300, 1301, ART 2050-2051	20
Required (ART 3110, ART 3401, ART 3701)	12
**Electives	12
ART EDUCATION:	
Methods Courses (ARE 4242, ARE 4243, ARE 4244)	10
Student Teaching (ESE 4943)	11
Total:	77

*Students must complete ART 1201, 1203, 1300, 1301 prior to enrolling in ARE 4242.

**Art electives must include a minimum of three closely related courses in a single advanced area (fine arts, crafts, etc.).

AUDIOLOGY AND SPEECH PATHOLOGY

Students desiring to specialize in Audiology and Speech Pathology may enroll in either the College of Liberal Arts and Sciences or the College of Education. The undergraduate program is pre-professional and requires a minimum of 32 semester hours of Speech. No grade below "C" meets a requirement in this program.

Information about the Audiology and Speech Pathology programs may be obtained through the Department of Speech, 442 Arts and Sciences Building, or the Office of Student Services, 134 Norman Hall. Students in the College of Liberal Arts and Sciences must confer with their adviser prior to admission to the Division of Audiology and Speech Pathology.

Majors are expected to complete approximately 32 hours of acceptable speech pathology-audiology courses, 16 hours of education courses and 10 hours of related area courses. They are expected to work out a planned program with their Speech Department adviser which, when signed by the student, the Speech Department adviser and the College of Education adviser will constitute the student's contract for graduation.

To qualify for the certificate of Clinical competence in Audiology or Speech Pathology awarded by the American Speech and Hearing Association or to obtain endorsement by the College of Education and the Department of Speech for the State Department of Education certification in Speech Correction or Hearing Disabilities, it is necessary to complete a master's degree or equivalent.

ENGLISH LANGUAGE ARTS

This is a joint program with the College of Liberal Arts and Sciences leading to certification at the secondary school level in (A) English, (B) English/Speech (and Journalism if desired by a student) and (C) English/Religion.

A. *English Specialization:* Students wishing to complete a program in English only must satisfy the requirements listed below:

1. One course in the English language. LIN 4100 (History of the English Language) is recommended. LIN 3370 (Modern English Structure) will also satisfy this requirement.

2. One course in literary theory or criticism. The following courses will satisfy this requirement: ENG 3011 (The Major Critics), ENG 3010 (The Theory and Practice of Modern Criticism), LIT 3003 (Forms of Narrative), LIT 4001 (Studies in Literary Genres).

3. One writing course. ENC 3310 (Advanced Exposition) or ENC 3312 (Advanced Argumentative Writing) are recommended.

4. Survey courses in British and American literature: (a) ENL 2012 (Survey of English Literature: Medieval to 1750) and (b) either ENL 2022 (Survey of English Literature: 1750 to Present) or AML 2012 (Survey of American Literature: From the Beginnings to Crane) or AML 2023 (Survey of American Literature: 20th Century). If they wish to do so students may substitute comparable advanced courses. If they do make these substitutions they still must satisfy the survey criterion of this requirement.

5. The electives for the English specialization consist of four courses. It is recommended that students use some of these four courses to establish an area of emphasis within their specialization suited to their individual needs and preferences.

6. Six semester hours of speech, including SPC 2300 or 3601. It is recommended that the other speech course be SPC 2260 or ORI 2001.

The requirements for the above specialization consists of a minimum of 27 semester hours of English courses, in addition to the general education requirement of six semester hours and six semester hours of speech. At least 19 of the 27 hours of English must be in courses numbered 3000 or above.

B. *English — Speech:* Students wishing to complete programs in both English and speech must major in one of them and minor in the other.

1. *The English specialization* (major) requirements are the same as listed above. The *speech minor* must include 18 semester hours and must contain these courses: SPC 2300 or 3601; SPC 2260 or ORI 2001; SPC 3440 or 3420 or 3513; LIN 2711.

2. *The speech specialization* (major) requirements include a total of 24 semester hours and must include these courses: SPC 2300 or 3601; SPC 2260 or ORI 2001; SPC 3440, 3420, or 3513; LIN 2711; SED 4335; THE 4730 or 4760. The *English minor* must include 18 semester hours and must contain required course work in English and American literature surveys, advanced composition, and English lan-

guage study. Students wishing to add journalism to the English-Speech program above must take MMC 2100 and JOU 4800.

C. *English — Religion:* Students wishing to complete programs in both English and Religion must major in English and minor in Religion. The English major requirements are the same requirements listed above for the English specialization. The minor in religion must include 18 semester hours encompassing work in (1) World Religions, (2) Bible, (3) History of Religion in the West, and (4) Religion in America.

No course either required or elective, used to complete any of the above programs may be included if the grade earned in it is below "C."

FOREIGN LANGUAGE

This is a joint program with the College of Liberal Arts and Sciences and leads to certification in a foreign language. Students may enroll in either the College of Education or the College of Arts and Sciences.

Basic requirements for certification in a single modern foreign language include a minimum of 24 semester hours above the second year college level, plus LIN 3142, making a total of 27 semester hours. Course work should include the following areas: conversation, grammar and composition, linguistics, culture, and literature.

Students who wish certification in a second foreign language must complete 18 semester hours in that language. No course in which the grade earned is below "C" meets a requirement in this program.

MATHEMATICS

This is a joint program with the College of Liberal Arts and Sciences. Students may enroll in either the College of Education or the College of Liberal Arts and Sciences. No course in which the grade earned is below "C" meets a requirement in this program.

REQUIRED COURSES:

	Credits
MAC 3311, 3312 or MAC 3472, 3473	8
MAS 3113 or MAS 3114 or MAS 4103	3-4
COP 3212 and COP 3212L or COC 3110	3
STA 3023 or STA 4321	3
MAS 3301 and MAS 4311	6
MTC 3212	4

ELECTIVE COURSES:

The elective course must be chosen from MAC 3313, MAP 3302, MAS 3203, MHF 3202 and any course at the 4000-level or above with the prefix MAA, MAD, MAP, MAS MHF, or MTG 3

Total 30-31

PSYCHOLOGY EDUCATION

The Psychology specialization leads to the certification to teach Psychology at the high school level. Students may enroll in either the College of Education or the College of Liberal Arts and Sciences. No course in which the grade earned is below "C" meets a requirement in this program.

Professional Education Requirements:

	Credits
EDF 3135 or 4210	3
EDF 3514 or 3604 or 4542 or 4710	3
ESE 4011	3
ESE 4210	3
SSE 4333	3
ESE 4943	11
Elective in Education (College of Education students only)	1-3

Psychology Requirements: Credits

A. Introductory Level
PSY 2013 3

B. Foundation Level
Two courses from the following:
CBH 3003, EAB 3002, EXP 3604, PSB 3004 6
Two courses from the following:
DEP 3002, PPE 3004, SOP 3304 6
STA 3023 3

C. Intermediate and Advanced Level
Psychology 3000, 4000, 5000 level courses ..... min. 6

Other Requirements:
A. 12 hours of History including two courses of U.S. History and two courses other than U.S. History.
B. A course in each of two other fields from among the fields of Anthropology, Economics, Political Science, Geography and Sociology.

SCIENCE EDUCATION PROGRAMS
BIOLOGY

The biology specialization leads to certification to teach biology at the high school level. Students may enroll in either the College of Education or the College of Liberal Arts and Sciences. No course in which the grade earned is below "C" meets a requirement in this program.

Course	Credit
Mathematics:	
MAC 3311	4
Biology:	
*BOT 1010 and BSC 2010 or BOT 2021C and BSC 2010	7
BOT 3503 or PCB 4745	3-4
BOT 3153 and ZOO 3203 or ZOO 3203 and ZOO 3303	6-8
PCB 3063 or PCB 3653 or PCB 5046	4
AGR 3303 or AGR 3305 or PCB 4044	3-4
MCB 3020, MCB 3020L	3
Chemistry:	
CHM 2040, 2041, 2042L or CHM 2042, 2042L, 2043C or CHM 2051C, 2052C	8-11
Physics:	
PHY 1001 or PHY 2048, 2048L	4
Total	45-52

*Transfer students with a year of Biology should not take BOT 1020.

CHEMISTRY

The chemistry specialization leads to the certification to teach chemistry at the high school level. Students may enroll in either the College of Education or the College of Liberal Arts and Sciences. No course in which the grade earned is below "C" meets a requirement in this program.

Course	Credit
Mathematics: MAC 3311	4
Chemistry:	
CHM 2040, 2041, 2042L, 2043C or CHM 2042, 2042L, 2043C 2043C or CHM 2051C, 2052C	8-11
CHM 3200, 3200L or CHM 3210, 3211	4-6
CHM 3400, 3401	6
CHM 3120, 3120L	4
Physics:	
PHY 2048, 2048L, 2049, 2049L or PHY 2053, 2053L, 2054, 2054L	8-10
Total	34-41

Recommended Electives:
GLY 2015, 2100, MAC 3302, 3313, 3314, PHY 3123, PHY 3423, PHY 4222, PHY 4822

EARTH SCIENCES IN THE JUNIOR HIGH SCHOOL

This specialization prepares teachers to teach the earth sciences and general science in the junior high school. Stu-

dents may enroll in either the College of Education or the College of Liberal Arts and Sciences to pursue their degree. No grade less than "C" meets a requirement in this program.*

Course	Credit
Mathematics:	
MAC 3311	4
**Geology:	
GLY 2015, 2100 and four of the following: GLY 4155, 4200, 4210, 4301, 4400, 4511, 4610, OCE 4005	18
MET 2701, 3711; AST 2003, 2004, 3017	6-9
Physics:	
PHY 2048, 2048L	4
Chemistry:	
CHM 2040, 2041, 2042L, 2043C or CHM 2042, 2042L, 2043C, or CHM 2051C, 2052C	8-11
Total	40-46

Recommended Electives:
AST 3018C, AST 3019C, AST 3652, AST 3653, MET 4460, CHM 3200.

*Students taking this program will take Chemistry and Physics instead of PSC 1420, 1510, 1502.
**This major in Geology is a Science Education major, not a Professional Geology major.

PHYSICS

The Physics specialization leads to the certification to teach Physics at the high school level. Students may enroll in either the College of Education or the College of Liberal Arts and Sciences. No course in which the grade earned is below "C" meets a requirement in this program. This major in Physics is a Science Education major, not a Professional Physics major.

Course	Credits
Mathematics:	
MAC 3311, 3312	8
Chemistry:	
CHM 2040, 2041, 2042L or CHM 2042, 2042L, 2043	8-11
Physics:	
PHY 2048, 2048L, 2049, 2049L	8
PHY 3123, 3221, 3321, 3802L, 4803	13
AST 2003, 2004, 3018, PHY 4124, 4222, 4322, 4444	6
Total	43-46

Recommended Electives: Any course in Physics at the 4000 or 5000 level not used to satisfy the above programs; GLY 2015, 2100, MAP 3302.

SOCIAL STUDIES SPECIALIZATION

This is a joint program with the College of Liberal Arts and Sciences. Students may enroll in either the College of Education or the College of Arts and Sciences.

A minimum of 42 hours in social science beyond the basic general education course is required. No course in which the grade earned is below "C" may be counted in these 42 hours.

A student may elect to concentrate in one of the following social sciences: anthropology, economics, geography, history, political science, or sociology. For those majoring in a field other than history, 12 hours of history are required. The student who elects the program outlined below will be eligible for teacher certification in social studies if his distribution includes credit in at least four separate social studies subjects. A student should plan a program, in consultation with his adviser, which includes the following minimum requirements:

	Credits
Major field (Anthropology, Economics, Geography, History, Political Science, or Sociology)	24
* History (to include at least two courses of U.S. History and two courses other than U.S. History)	12
Social Science Electives	12
Total	48

* For students majoring in History, the required 12 hours in History may be a part of the 24 hour major.
** Six semester hours of the total may be basic general education course credits. This may be either CSS or transferred social science credit that is not otherwise used in the teaching field.

OTHER PROGRAMS

Students in the College of Education and other colleges may have individual programs planned by selecting one or two areas from fields not listed or combinations which do not appear as regular programs in teacher education.

Programs provided for in this section will be worked out by the student and his adviser on an individual basis. Such individual programs must be approved by the Deans of both Colleges. The planning of combination programs will take into account the personal and educational objectives of the student, the relationship between the fields in the proposed combination, the certification requirements of the state, and the employment possibilities which the combination being considered offers. For combination programs preparation must include a minimum of 24 semester hours above any comprehensive or general education courses in a field and 18 semester hours, exclusive of general education courses, in the second. This assumes that the two fields are essentially related as to supplement each other. If the two fields are essentially unrelated 24 semester hours will be required in each. A guide to the specific courses required in each field may be found in the regular Liberal Arts and Sciences-Education programs. No courses in which the grade earned is below "C" meets a requirement in these programs.

PROGRAMS IN HIGHER EDUCATION

Students planning careers in higher education will find many opportunities for professional improvement at the University of Florida. The College of Education, working with other instructional units of the University, provides opportunity for a variety of professional careers in teaching and administration in colleges and universities, in community colleges, and in area vocational-technical centers.

Of special interest are programs designed for those persons interested in joining state and regional staffs with responsibilities for coordinating and state level planning for higher education. The design of these programs emphasize both preservice preparation and inservice improvement in the areas of teaching, counseling and other student personnel services, administration and research in all types of post high school institutions. Additional emphasis is placed upon the leadership responsibilities and the roles of those who will become staff members of coordinating boards of regional agencies.

Students in the College of Education may concentrate their higher education program in any one of the seven departments: Administration, Counselor Education, Foundations of Education, General Teacher Education, Instructional Leadership and Support, Subject Specialization Teacher Education, and Special Education.

All course work is at the graduate level and will lead to one of the degrees listed in the following section.

All programs are individually planned to meet the specific needs of the individual candidate. Past experiences, present stated needs, and professional goals are basic to the development of the program of studies for the individual.

A variety of internship experiences are available for the advanced graduate student to acquire additional teaching, counseling and/or administrative experience in higher education. The internships are voluntary in nature and are designed to meet particular student needs

GRADUATE EDUCATION DEGREES AND FIELDS OF SPECIALIZATION

Five graduate degrees are offered in the College of Education: the Master of Education, the Master of Arts in Education, the Specialist in Education, Doctor of Education, and Doctor of Philosophy.

Specialization at the master's and/or advanced degree level is possible in the following fields:

Administration

School Administration K-12
Business Management
Higher Education Administration
Community College Administration
Community Education
Administration of Allied HHealth Programs
Administration of Special Education
Administration of Vocational Education

Instructional Leadership and Support

Educational Media
Reading,
Vocational, Technical, and Adult Education—including Health Occupations Ed.
Post-Secondary Education
Supervision & Curriculum

Subject Specialization Teacher Education

Art Education
Music Education
Business Education, Advanced degree levels only
Science Education
Language Arts Education
Foreign Language Education, including Bi-lingual Education
Mathematics Education
Social Studies Education

General Teacher Education

Early Childhood Education
Elementary Education
Middle School Education

Counselor Education

School Counseling
Agency Counseling
Higher Education Personnel
Counseling Psychology
School Psychology

Foundations

Psychological Foundations
Social Functions
Research Methodology

Special Education

Mental Retardation
Emotional Disturbance
Learning Disabilities
Multiple Handicapped
Speech Pathology

AEROSPACE ENGINEERING
AGRICULTURAL ENGINEERING
CHEMICAL ENGINEERING
CIVIL ENGINEERING
COASTAL AND OCEANOGRAPHIC ENGINEERING
COMPUTER AND INFORMATION SCIENCES
ELECTRICAL ENGINEERING
ENGINEERING SCIENCES
ENVIRONMENTAL ENGINEERING SCIENCES
INDUSTRIAL AND SYSTEMS ENGINEERING
INTERDISCIPLINARY ENGINEERING STUDIES
LAND SURVEYING
MATERIALS SCIENCE AND ENGINEERING
MECHANICAL ENGINEERING
NUCLEAR ENGINEERING SCIENCES
ENGINEERING COMMON COURSES

College of Engineering

GENERAL STATEMENT

The engineer engages in creative design and construction, and in research and development — serving to bridge between human needs and the storehouse of theoretical knowledge. In applying science to the common purpose of life, the engineer couples science with the management of people, money, machines, and materials. Engineering challenges the individual, stimulating ingenuity and resourcefulness, and yielding a rewarding sense of creative accomplishment.

The engineer deals with real problems in the real world. This requires a thorough working knowledge of mathematics and the sciences as well as an understanding of the legal, economic, and social restrictions of contemporary society. Clear and precise communications, whether oral or written, are required of the engineer when delivering judgments, plans, and decisions. A sound knowledge of the engineering field and of related disciplines is required so that the engineer can work effectively with others — other engineers, scientists, and technicians — in fulfilling engineering assignments. Above all, the engineer is expected to be a responsible citizen.

The various undergraduate programs in the College of Engineering are founded on mathematics and the physical sciences. Additional emphasis is placed upon the humanities and social sciences to develop judgment, perspective and curiosity. Although many graduates continue their formal education beyond the bachelor's degree, the education of an engineer should not stop upon completion of a degree program: education, formal or otherwise, is a lifelong process for the successful engineer.

The curricula of the College of Engineering are planned to achieve these objectives and to provide a wide range of choices to the student selecting a degree objective. The department is the basic organizational unit within the College of Engineering, and has both academic and administrative responsibilities for programs leading to the bachelor's degree. Departments with baccalaureate degree responsibilities and the bachelor's degrees they offer are:

Agricultural Engineering Department
- Bachelor of Science in Engineering (Agricultural Engineering)

Chemical Engineering Department
- Bachelor of Science in Chemical Engineering
- Bachelor of Science (Chemical Engineering)

Civil Engineering Department
- Bachelor of Science in Civil Engineering
- Bachelor of Land Surveying

Computer and Information Sciences Department
- Bachelor of Science in Engineering (Computer and Information Sciences)

Electrical Engineering Department
- Bachelor of Science in Electrical Engineering

Engineering Sciences Department
- Bachelor of Science in Engineering (Aerospace Engineering)
- Bachelor of Science in Engineering (Engineering Science)

Environmental Engineering Sciences Department
- Bachelor of Science in Engineering (Environmental Engineering)

Industrial and Systems Engineering Department
- Bachelor of Science in Industrial and Systems Engineering

Materials Science and Engineering Department
- Bachelor of Science in Engineering (Materials Science and Engineering)

Mechanical Engineering Department
- Bachelor of Science in Mechanical Engineering

Nuclear Engineering Sciences Department
- Bachelor of Science in Engineering (Nuclear Engineering)
- Bachelor of Science (Nuclear Engineering Sciences)

In addition the College of Engineering offers a program in Interdisciplinary Engineering Studies, administered by the Dean's Office, and leading to the Bachelor of Science (Interdisciplinary Engineering Studies) degree.

For information relative to Graduate degrees in engineering refer to other sections of this catalog, or the Graduate School catalog.

The Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (formerly, the Engineers' Council for Professional Development) has accredited programs in the College of Engineering leading to the following degrees:

- Bachelor of Science in Engineering (Aerospace Engineering)
- Bachelor of Science in Engineering (Agricultural Engineering)
- Bachelor of Science in Chemical Engineering
- Bachelor of Science in Civil Engineering
- Bachelor of Science in Electrical Engineering
- Bachelor of Science in Engineering (Engineering Science)
- Bachelor of Science in Engineering (Environmental Engineering)
- Bachelor of Science in Industrial and Systems Engineering
- Bachelor of Science in Engineering (Materials Science and Engineering), for the specialty areas of Ceramic Engineering and Metallurgical Engineering
- Bachelor of Science in Mechanical Engineering
- Bachelor of Science in Engineering (Nuclear Engineering)
- Master of Engineering with a major in one of the following programs:
  - Ceramics Engineering
  - Civil Engineering
  - Coastal and Oceanographic Engineering
  - Environmental Engineering
  - Mechanical Engineering

The General Plan of Study

The study programs leading to the bachelor's degrees in engineering, described under the separate headings on the following pages, are carefully planned into an organized sequence. The aggressive, strongly motivated student with proper high school preparation can complete one of these programs in about 4½ years, including a summer term, by carrying course loads of 16 credit hours. Many students will require more than this length of time.

Some students, for different reasons, are not prepared to enter directly into one of the curricula described below. For example, a student may have attended a high school which did not offer all the preparatory courses necessary for entry into an engineering program. Or possibly the student's objectives changed late in the high school program, resulting in a preparation deficient in areas required of potential engineering students. In all such cases, the time required to complete the degree requirements can be expected to increase.

As a general rule, subjects basic to all fields of engineering are studied while the student is enrolled in the first two years of the University, or in a pre-engineering program of a community or junior college. Then, when specialized study is taken in the third and later years in the College of Engineering, the program of course work can be tailored to the student's interests and abilities.

ADMISSION REQUIREMENTS

The College of Engineering encourages applications from all persons regardless of their sex, race, religion, or cultural background.

Because of the limitations on space, facilities and number of faculty the College of Engineering has had to become a selective admission college. The two major criteria for admission are grade point average and completion of prerequisite courses. All applicants are referred to the departments for selection, with g.p.a. being most important. In future terms the minimum g.p.a. will vary with number of appli-

cants, availability of space, and numbers of faculty in a given program. Florida residents are given priority. Nonresidents are admitted only after qualified resident applicants have been admitted.

Specific requirements for admission to the College are listed below.

Direct Admission: Requirements for direct admission to the College are given in the Admissions section of this catalog.

Students Classified UF: A student in a lower division college can request transfer to the College of Engineering any time after completion of the freshman year.

Many departments require substantial completion of the mathematics, physics, chemistry and English course sequences of the pre-engineering program, described under *Freshman and Sophomore Requirements* below, for a student to be considered for admission.

Transfer from Community and Junior Colleges: A student in a community or junior college who has completed the associate degree or 60 semester hours of credit is eligible to transfer directly into the College of Engineering. Students who do not meet either of these criteria must enroll in the College of Liberal Arts and Sciences for at least one semester before transferring into the College of Engineering.

Students wishing to transfer into the College of Engineering after completing the associate degree in a community or junior college should tailor their associate-degree program as follows:

1. Satisfy the general education requirements of the community or junior college.
2. Take the following recommended course work:
   a. mathematics through analytic geometry, and calculus of several variables — 12 semester hours
   b. Chemistry including general chemistry and qualitative analysis — 8 semester hours
   c. general physics with calculus and laboratory — 8 semester hours
   d. engineering graphics, if required in the proposed major department — 2 semester hours
   e. biological sciences — 3 semester hours.
3. Avoid taking technical education courses. Such courses are acceptable as part of the program only if they are shown to be equivalent to required courses at the University.

Departments with Restricted Admission: Because they receive applications from many more students than they can accommodate, several departments have established admission standards above the minimum requirements for the College of Engineering. These departments are:

Aerospace Engineering (see Engineering Sciences)
Chemical Engineering
Civil Engineering
Electrical Engineering
Computer and Information Sciences
Engineering Sciences
Industrial and Systems Engineering
Mechanical Engineering
Nuclear Engineering

FRESHMAN AND SOPHOMORE REQUIREMENTS

The program below is described for students whose high school preparation meets the criteria shown under the *Engineering* subsection of the *University College* section near the front of this catalog.

The minimum course load for full-time students is 12 credit hours each semester, but most students take 14 to 16 credit hours. At this rate, it takes at least 4½ years, including a summer term, to earn a B.S. degree. It will take somewhat longer for students who need preparation courses before entering the program below.

In planning the physical science and mathematics portion of the academic program, a freshman should talk with a College of Engineering faculty adviser.

The requirements in Social Sciences, English, Humanities, and (in most departments) Biological Sciences can be met only by (a) appropriate College Level Examination Program (CLEP) credits or (b) courses selected from the listing in the *Authorized Courses for General Education* section of this catalog. In a few cases as noted below, the College of Engineering requires specific courses in fulfilling the General Education requirements for these subject areas.

Courses	Credits
Social Sciences	6
English Composition	3
English Elective	3
Biological Sciences (see note 1 below)	3
Humanities (see note 2)	9
CHM 2042, 2042L, 2043C General Chemistry (see note 3)	8
MAC 3311, 3312, 3313 Analytic Geometry and Calculus	12
MAP 3302 Elementary Differential Equations OR	
EGM 3311 Introduction to Engineering Analysis (see note 4)	3
PHY 2048, 2048L, 2049, 2049L, General Physics with Calculus	8
COP 3212 Computer Programming for Engineers (see note 5)	2
EGN 1111 Engineering Graphics (see note 6)	2
ECH 3012 Elements of Chemical Engineering (see note 7)	3
ECH 3023 Introduction to Chemical Engineering (see note 7)	3
Unspecified Electives (see note 8)	
Total hours (excluding unspecified electives)	55-63*

*Total hours required varies depending on department.

Note 1: Environmental Engineering Sciences requires BSC 2010 to meet this requirement.

Note 2: Part or all of the humanities requirement may be deferred to the junior and senior years. Courses relating humanities to engineering and the sciences, as listed in Category III of the humanities subsection of the General Education section, are especially recommended.

Note 3: All students are required to take the Chemistry Placement Examination, given each term by the Chemistry Department, prior to initial registrattion in CHM 2040 or CHM 2042. Students who achieve an acceptably high score on the Examination may proceed with the CHM 2042, 2042L, 2043C sequence. Students achieving a lower score should take the CHM 2040, 2041, 2042L, 2043C course sequence.

Note 4: Aerospace Engineering and Engineering Science students must take EGM 3311.

Note 5: Not required for students in Computer and Information Sciences. Chemical Engineering requires CAP 3210 (3 credit hours) instead of COP 3212. Industrial and Systems Engineering students take COP 3212L if available.

Note 6: Not required for students entering Chemical, Electrical, Environmental, and Nuclear Engineering programs.

Note 7: ECH 3012 and ECH 3023 required only in Chemical Engineering program.

Note 8: Students should consult a faculty adviser in the department they intend to enter when selecting these electives.

COLLEGE REGULATIONS

English Requirement: Responsibility for the correct and effective use of his or her spoken and written English rests primarily upon the student. Any instructor in the College of En-

gineering may, at any time, with the approval of the Chairman of the department and the Dean of the College of Engineering, require a student who shows a deficiency in English to complete additional courses, over and above the curriculum requirements for the degree.

Each student in the College is required to complete the course ENC 3352, Technical Writing, with a grade of C or better.

Thesis: A thesis is not required of candidates for the baccalaureate degree in the College of Engineering. However, exceptional students may be granted permission by the Dean of the College, upon recommendation of the chairman of the department, to undertake a thesis in lieu of required or elective work in the department in which the student is enrolled. Not more than four semester hours will be allowed for such thesis work.

Credit for Special Work.

1. Upon the recommendation of the chairman of the department and the approval by the Dean, a student during the course of study may do practical work under approved supervision in industry. By submitting a satisfactory report, based upon a previously approved outline, and by passing an examination, college credit may be received not to exceed three semester hours. Students will register for the proper departmental course to receive such credit.

2. Where it is determined by the department concerned that an exceptional student may profit by supplementing the regular program of course work in a particular area, the student may register for special problems in the chosen field. Credit for such work should not exceed six semester hours. To receive such credit, the student must register for the departmental course number 4905.

A student may not have more than eight semester hours total for work in industry, special problems, and High Honors project.

Elective Credit: It is the policy of the College that students, classified 3EG and higher, are not normally allowed to use freshman level courses for technical and nontechnical elective credit. Foreign language credits at the freshman level may, within the discretion of the department, be credited as non-technical electives, provided that the student presents at least two semesters of work with a grade of "C" or better in the same language.

Grade-Average Required for Graduation: The requirement for graduation with a Bachelor's degree is a grade average of "C" or higher in all work taken after being classified as a junior, as well as for all UF work, and successful completion of all required courses.

Maintenance of Academic Standards: If at any time after admission to the College of Engineering a student's college grade point average falls below 2.00 the student will be placed on college probation. A student may also be placed on probation if normal academic progress is not maintained in the program of study. The section of this catalog on 'Student Regulations' authorizes any college to set its own standards for exclusion of a student who fails or refuses to maintain normal academic progress. It is the policy of the College of Engineering that any undergraduate student who withdraws from the University for the second time will be automatically placed upon college probation which will continue until graduation. Any student on college probation for this reason who withdraws for a third time from the University may be ineligible for further registration in the College of Engineering. Failure to satisfactorily complete the terms of probation will result in the ineligibility of the student for further registration in the College of Engineering.

Advanced ROTC: Some engineering students may elect to enroll in the advanced ROTC programs offered by the Army, Navy and the Air Force. Graduates of these programs are commissioned as second lieutenants or ensigns as described elsewhere in this catalog.

It is the policy of the Accreditation Board for Engineering and Technology which accredits engineering curricula, that student enrollment in advanced ROTC programs represents a second career objective quite apart from that of professional engineering. Accordingly, advanced courses in Military Science are only acceptable on a limited basis, with department approval, for credit as technical or non-technical electives toward a degree in engineering.

Correspondence Courses: (See Student Academic Regulations— "Degrees and Graduation.")

A student in the College will not be permitted to register for and work on correspondence courses while enrolled in the College unless special permission is obtained from the Dean of the College and the Registrar. A student on probation must have permission of the Dean to register for correspondence courses when not enrolled in the College. A student who has been suspended will not be permitted to take correspondence courses for credit until the suspension is removed. A grade of "C" or better is required to receive credit for a correspondence course.

Dean's List:

Each semester there is compiled a Dean's List of those students whose work for the preceding semester has been of a high order. This recognition is accorded to students in the College of Engineering who:

a. received a minimum of 14 hours of credit during the semester;

b. received a 3.2 average during the semester; and

c. have no grade below "C" for the semester.

Drop Policy: Students classified 1 and 2EG are allowed a total of two drops after the published drop-date. Similarly, students classified 3, 4, 5, and 6EG are allowed a total of two unrestricted drops. A student with an initial course load of 15 credits or more will be permitted to drop a course without penalty or use one of the free drops, provided this is done by the end of the seventh week of class and the total credits remaining are 12 or more. There is no petition appeal from this policy.

HONOR STUDENTS

Honors: Students in the College of Engineering are designated as Honor Students when they have met all the following conditions:

1. have achieved a grade point average of 3.30 or higher in all work taken after being classified as a junior;
2. have been registered in the College for at least one semester;
3. have completed at least 16 credit hours at the University of Florida after being classified as 3EG or higher;
4. have been recommended by the major department after the departmental faculty have reviewed the student's record for satisfactory conduct and academic progress.

For honor students, the grade point average referred to in condition 1 above is termed the *honor point average.*

Special consideration is given honor students who wish to substitute courses, provided that they have maintained the conditions for honor student designation. The student petitions the Associate Dean for Academic Affairs for such substitutions.

Graduation with honors requires, in addition to the normal requirements for graduation,

1. completion of all work required by the major department with a grade point average of 3.30 or higher;
2. recommendation of the major department.

High Honors: Certain honor students may be invited by the faculty of the major department to participate in a special program leading to graduation with High Honors.

Eligibility for the high honors program requires:

1. an honor point average of 3.50 or higher;
2. recommendation by the faculty of the major department.

Participation in the high honors program requires that the student:

1. accept in writing the invitation to participate in the program no later than the end of the term before graduation;
2. carry out a high honors project and submit a thesis based on the project.

If the student accepts the invitation to participate in the program, the Dean appoints a committee to oversee and approve all stages of the thesis project. The committee, recommended to the Dean by the department chairman, is composed of two faculty members from the student's major department and one faculty member from another department of the University.

The thesis project is normally not waived unless the student has an honor point average of 3.80 or higher, but this is discretionary with the committee in exceptional cases. In planning the student's program, the committee takes into account the academic goals of the student. The committee supervises the High Honors project and/or the oral examination; upon satisfactory completion of all requirements, the committee recommends the candidate to the faculty of the major department.

Graduation with High Honors requires (a) completion of all required work of the major department with an honor point average of at least 3.50 and (b) recommendation of the major department.

When a high honors project is a part of the program, credit may be obtained by registration in courses carrying the prefix of the appropriate department. Not more than a total of eight credit hours will be allowed for high honors project work, special projects, and practical work in industry. Registration for variable credit of one to four hours per semester requires Committee approval.

AEROSPACE ENGINEERING

The undergraduate and graduate degree programs in aerospace engineering are administered by the Department of Engineering Sciences. The Bachelor of Science in Engineering (Aerospace Engineering) program is designed to prepare its graduates for careers in aeronautical engineering and space-related engineering fields. It also prepares students for the post-baccalaureate education appropriate in preparation for careers in advanced research and development.

The program incorporates a solid foundation of physical and mathematical fundamentals which provides the basis for the development of the engineering principles essential to the understanding of both atmospheric and extra-atmospheric flight. Aerodynamics, light-weight structures, flight propulsion and related subjects typical of aeronautical engineering are included. Also, there are courses which introduce problems associated with space flight and its requirements. Integration of fundamental principles into useful applications is made in design work in the junior and senior years. Thus, the program prepares the student to contribute to the future technological growth which promises exciting and demanding careers in aerospace engineering.

Areas of individual interest may be pursued through counseled choice of elective work. Examples of concentration areas are:

Aerodynamics
Design
Flight Propulsion
Flight Structures
Space Technology
Stability, Control and Guidance

Graduates of the Aerospace Engineering program are prepared for employment in the aerospace industry in Florida and elsewhere. Their broad scope of fundamental preparation also suits them for specialized work in related industries and government laboratories.

Admission Requirements: The baccalaureate program in Aerospace Engineering is a selective admission program. Admission decisions are made by a faculty committee according to the following criteria:

1. Students making normal progress toward completion of pre-engineering prerequisite courses and who have earned an overall gradepoint average of 2.5 or higher will ordinarily be admitted; those with 2.3 or lower will ordinarily not be admitted.
2. The admissions committee will consider the following additional factors in reaching its final decision: performance in calculus, physics, and chemistry courses completed, and other evidence of motivation and suitability for a career in Aerospace Engineering including performance in relevant work experience.

These criteria are applicable to all students, independent of the location of their lower division work.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (AEROSPACE ENGINEERING)

Courses	Credits
ENGLISH, HUMANITIES & SOCIAL SCIENCES	
*English	6
*Humanities	9
*Social Sciences	6
ENC 3213 Technical Writing and Business Communication	2
ANALYTICAL AND DESIGN TOOLS	
*MAC 3311 Analytical Geometry and Calculus 1	4
*MAC 3312 Analytical Geometry and Calculus 2	4
*MAC 3313 Analytical Geometry and Calculus 3	4
*EGM 3311 Introduction to Engineering Analysis	3
EGM 4312 Engineering Analysis 1	4
EGM 4313 Engineering Analysis 2	4
EGM 4344 Introduction to Numerical Methods of Engineering Analysis	3
*EGN 1111 Engineering Graphics	2
*COP 3212 Computer Programming for Engineers	2
BASIC SCIENCE	
*CHM 2042, 2042L, 2043C General Chemistry (or CHM 2040, 2041, 2042L, 2043C)	8
*Biological Science	3
*PHY 2048 General Physics with Calculus 1	3
*PHY 2048L Lab for PHY 2048	1
*PHY 2049 General Physics with Calculus 2	3
*PHY 2049L Lab for PHY 2049	1
AEROSPACE ENGINEERING, ENGINEERING SCIENCE AND DESIGN	
**EGM 3420 Engineering Mechanics (or EGM 3511 and EGM 3400)	4
**EGM 3520 Mechanics of Materials	3
EMA 3010C Materials 1	3
EML 3100 Thermodynamics	3
EGM 4200 Mechanical Vibrations	3
EEL 3111 Electrical Engineering	3
EAS 3001 Applied Aerodynamics 1	3
EAS 4105 Applied Aerodynamics 2	3
EAS 4803 Aerospace Instrumentation	3
EAS 4106 Low Speed Aerodynamics	3
EAS 4106L Subsonic Wind Tunnel Lab.	1
EAS 4112 High Speed Aerodynamics	3
EAS 4112L Supersonic Wind Tunnel Lab.	1
EAS 4200 Aerospace Structures 1	3
EAS 4201L Aerospace Structures Laboratory 1	1
EAS 4210 Aerospace Structures 2	3
EAS 4211L Aerospace Structures Laboratory 2	1
EAS 4300 Aerospace Propulsion	3
EAS 4700 Aerospace Design 1	3
EAS 4710 Aerospace Design 2	3
EAS 4933 Senior Seminar	1
***General Elective	3
***Aerospace Electives	6
Total Credits	135

*Pre-engineering program requirements
**A grade of 'C' or better is required in EGM 3420 (or EGM 3511 and EGM 3400) and EGM 3520.
***Electives must be approved by the student's department counselor.

AGRICULTURAL ENGINEERING

The agricultural and food industry is the largest single industry in the United States and in Florida. The growth of agriculture and technology have proceeded together and now agricultural production and processing industries require advanced machines and systems. The industries providing these machines and the related systems require engineering skills which agricultural engineers provide. The agricultural engineer is also involved in natural resources conservation in his drainage and watershed hydrology activities.

Agricultural engineering is unique in its concern for the engineering problems of biological production and processing. The agricultural engineer solves the engineering problems associated with agriculture such as the conversion of the sun's energy into biological (food) products using soil nutrition resources and water in controlled ways. He uses his basic engineering training combined with knowledge of agricultural and biological systems to design functional machines and equipment to process and handle these products so that quality is enhanced. No challenge could be greater and more rewarding than that related to food production and processing in view of the population explosion and projected world food shortage.

The education of the agricultural engineer includes basic physical and engineering sciences and also courses in biology, soils, plant science and animal science. The courses in agricultural engineering unify the concepts learned into a practical ability to solve a broad range of engineering problems confronting the agricultural and food industry.

Agricultural engineers have numerous career opportunities in various segments of the large Florida agricultural industry and with manufacturers of equipment and supplies for agriculture throughout the nation. Agricultural engineers are sought by state and federal agencies for careers in irrigation, drainage and water resource management and pollution control. Excellent opportunities are available for graduate study. This program is offered cooperatively with the College of Agriculture.

Degree programs: The Agricultural Engineering Department offers the following degrees: Bachelor of Science in Engineering (Agricultural Engineering), Master of Engineering, Master of Science, and the Engineer Degree.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (AGRICULTURAL ENGINEERING)

Courses	Credits
Pre-Engineering Program	59
CNM 3100 Numerical Techniques	2
EGM 3420 Engineering Mechanics, Statics, Dynamics	4
EGM 3520 Mechanics of Materials	3
EGN 3353 Fluid Mechanics	3
or	
ECI 3213 Hydrodynamics 1 (3 credits)	
EEL 3003 Elements of Electrical Engineering	3
EML 3100 Thermodynamics	3
EMA 3010 Materials	3
or	
ECI 3403 Civil Engineering Materials (3 credits)	
SUR 3101 Engineering Measurements I	2
SOS 3022C General Soils	4
STA 3032 Engineering Statistics	2
ENC 3213 Technical Writing and Business Communication	3
Animal Science Requirement (ASG 3003)	2
or	
Plant Science Requirement (PLS 2031*) (3 credits)	
AGE 4012 Analytical and Professional Methods for Agricultural Engineering	3
AGE 4112C Agricultural Tractors and Power Units	3
AGE 4121C Agricultural Field Machines	4
AGE 4212C Soil and Water Conservation Engineering	3
AGE 4232C Drainage and Irrigation Engineering	3
AGE 4321C Environmental Control Design for Agricultural Structures	3
AGE 4411C Food and Agricultural Process Engineering	3
AGE 4416C Post Harvest Operations	3
AGE 4612C Heat and Mass Transfer in Biological Systems	3
**Approved Electives	14
Total	135

*Or Approved Alternatives

**Elective credits specifically selected in consultation with the Departmental adviser, to support the student engineering objective is required.

The curriculum is structured to provide the student an opportunity to develop a chosen area of specialization. Typical areas of specialization are:

Food Engineering
Forest Engineering
Power and Machinery
Processing
Solar Energy and Energy Conservation
Structures and Environmental Quality
Water Management and Resource Development

CHEMICAL ENGINEERING

Although chemical engineering has existed as a field of engineering for only about sixty years, its name is no longer completely descriptive of this dynamic, growing profession. For the work of the chemical engineer is neither restricted to the chemical industry nor limited to chemical changes or chemistry. Instead, modern chemical engineers, who are also called *process* engineers, are concerned with *all* the physical and chemical changes that matter is made to undergo to produce economically a product or result that is useful to mankind. More than most fields, the education of the chemical engineer has been based on the fundamental sciences of physics and chemistry, on mathematical and computer techniques, and on basic engineering principles. Such a broad background has made the chemical engineer extremely versatile and capable of working in a wide variety of industries: chemical, petroleum, aerospace, nuclear, materials, sanitation, food processing, and computer technology. The chemical industry alone provides an opportunity for the chemical engineer to participate in the research, development, design or operation of plants for the production of new synthetic fibers, plastics, chemical fertilizers, vitamins, antibiotics, rocket fuels, nuclear fuels, paper pulp, photographic products, paints, fuel cells, transistors, and the thousands of chemicals that are used as intermediates in the manufacture of the above products.

In practice, the activities of the chemical engineer are sufficiently diversified to attract a wide range of talents and abilities. The chemical engineers working in *process design* determine the sequence of steps to be followed in producing a useful product, calculate the sizes of the equipment required and the total cost, those working in *development research* do small scale studies on new processes or products; those working in *production* improve and coordinate the operation of plants and equipment. Others do *fundamental research* on the laws of science and their application. Many chemical engineers work in technical sales, cost estimation, patent law, and plant supervision. A chemical engineering background is often the best route to top-level management positions.

Degree Programs: The following degrees are offered by the Chemical Engineering Department: Bachelor of Science in Chemical Engineering, Bachelor of Science, Master of Engineering, Master of Science, Doctor of Philosophy.

The University of Florida and the Department of Chemical Engineering encourage application from all cultural, racial, religious and ethnic groups. However, because of rigorous requirements of technical competency to complete the professional program, and limitations of staff and facilities, ad-

mission is a selective process. Applicants are expected to exceed the requirements listed below, but doing so does not guarantee admission.

The admission committee will consider such factors as lower division grades (generally a GPA of 2.8 in technical courses is required), test data and adequacy of prerequisites. If the circumstances indicate these factors are incompletely indicative of qualification, other factors shall be considered such as motivation for a Chemical Engineering career, personal record and characteristics of suitability for the profession.

While applications are accepted up to the dates as specified in the front of the catalog admission standards may be higher for later applicants, particularly when most decisions have already been made (approximately March 15 for Fall admission, two months before other intended entrance times).

All Chemical Engineering majors shall maintain satisfactory progress (GPA of 2.0 or higher) in Chemical Engineering professional courses as well as in overall record. Also, to proceed to succeeding courses, "C" grades or better must be obtained in ECH 3012, 3023, 3203, and CAP 3210. However, since enrollment in selected courses prerequisite to senior level professional courses may be limited by insufficient staff and facilities, minimum performance may not guarantee completion of the curriculum.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

	Credits
Pre-Engineering Program	55
ECH 3012 Elements of Chemical Engineering	3
ECH 3023 Introduction to Chemical Engineering	3
EEL 3003 Elements of Electrical Engineering	3
Subtotal	64
Engineering Science Courses	
CAP 3210 Mathematical and Numerical Methods	4
EGM 3420 Statics and Dynamics	4
ECH 4824 ChE Materials	2
ECH 4504 Chemical Kinetics	3
ECH 4524 Reactor Dynamics and Design	2
ECH 4123 ChE Thermodynamics 2	4
ECH 4264 Transport Phenomena	3
EMA 4666 Polymer Processing or CHM 5511 — The Physics and Physical Chemistry of Polymers	3
Subtotal	25
Advanced Chemistry	
CHM 3210 Organic Chemistry	3
CHM 3211 Organic Chemistry	3
CHM 3211L Organic Chemistry Lab	2
CHM 4411, 4412 Physical Chemistry	7
Subtotal	15
Engineering Analysis and Design	
ECH 3203 Chemical Engineering Operations 1	3
ECH 4403 Chemical Engineering Operations 2	3
ECH 4323 Process Control Theory	4
ECH 4224L Chem. Eng. Operations Laboratory 1	3
ECH 4404L Chem. Eng. Operations Laboratory 2	2
ECH 4604 Cost Estimation of Process Designs	3
ECH 4644 Process Design	3
Subtotal	21
Other Required Courses	
STA 3032 Engineering Statistics	2
ECH 4934 Seminar	1
ENC 3213 Technical Writing and Business Communication	2
*Non Technical Electives	4
Subtotal	9
*Option Courses Subtotal	8
Total BSCHE Program	142

*Nontechnical courses may not include significant mathematics, science or engineering content. A list of generally used courses is available. In case of doubt, the Department Chairman shall determine suitability.

*An option consists of technical courses, at least 8 of which must make a coherent theme such as mathematics; biology; materials science; computer and information science; aerospace, agriculture, civil, coastal, electrical, environmental, mechanical or nuclear engineering; business, etc. Technical courses are defined as those with significant science and/or mathematical content. A list of suitable courses is available. Military courses cannot be used for technical or nontechnical electives. These programs lead usually after 9 semesters to the degree of Bachelor of Science in Chemical Engineering.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE & TO THE MASTERS DEGREE IN ENGINEERING

See University College portion for Pre-Engineering Curriculum.

The Department has also developed an alternative route for above-average students to attain high-level knowledge in applied science and chemical engineering fundamentals. This program consists of a bachelor's degree directly coupled to a Master of Engineering degree which can be completed within 5½ years.

The bachelor's degree contains most of the same ChE courses as for the BSCHE degree and is awarded to students who have been admitted to the Graduate School. The ME degree involves the same spectrum of Chemical Engineering areas but with more sophisticated material than is contained in the BSCHE degree.

In the minimum of 156 semester credits, the student will have earned a Master's degree and reached a significant level of professional education and will be capable of entering essentially all process industries in positions ranging from research to design, development, analysis, or operations.

The undergraduate program parallels the BSCHE program until the last three terms when the material in some courses and most electives are postponed to the graduate level where it is upgraded and supplemented. Details of the graduate program can be obtained from the Graduate Coordinator.

The curriculum consists of all courses required for the BSCHE degree except for ECH 4323, 4264. Also, 3 credits of non-technical electives and 0 credits of technical electives are required.

Total Credits Upper Division	60
Total Credits Lower Division	64
Total BS degree	124

CIVIL ENGINEERING

Civil Engineering is directly concerned with the activities of man and his environment. It is the oldest and most diverse branch of engineering and includes the design and

construction of bridges, buildings, dams, waterways, coastal protection works, airports, pipe lines, missile launching facilities, blast shelters, railroads, highways, sanitary systems, ocean structures and facilities, foundations, harbors, water works, and many other systems and structures upon which modern civilization depends. In its broadest sense, the function of the civil engineer may be defined as the adaptation of the physical features of the earth to the needs of man. Approximately one-fourth of all engineers are engaged in Civil Engineering.

The concentration of population into cities, the mass use of the automobile and the airplane, the increasing demands of industry for greater quantities of power and the public's demand for clean streams and beaches, for clean air, and the potential for man's expansion into space and the oceans present the civil engineer with many challenging problems.

To assist the young engineer to meet these challenges, the Civil Engineering Department offers a basic program that provides the minimum education for practice in this broad field of engineering services to society. Beyond the bachelor's degree, advanced degrees may be obtained in several of the major areas of civil engineering such as transportation, hydraulics, structural, soil mechanics, foundations and construction.

While it is essential that the civil engineer understand the fundamentals of his chosen field, it is also necessary that he understand the role other branches of engineering play in the completed work. The Civil Engineering curriculum therefore includes courses from other engineering disciplines, and because of this broad program, it provides an excellent basic engineering education. Thus, the student who is not sure which field of engineering to choose is provided with the broadest of engineering backgrounds, a springboard, so to speak, to specialization.

Degree Programs:

The Civil Engineering Department offers the following degrees: Bachelor of Science in Civil Engineering, Bachelor of Land Surveying, Master of Engineering, Master of Science, the Engineer Degree, and Doctor of Philosophy.

The program of study leading to the degree of Bachelor of Science in Civil Engineering has been established to meet the requirements for entry into the professional practice of civil engineering and to meet the general education requirements of the University of Florida. The program is divided into two parts: a two year pre-engineering program and the upper division professional portion. The pre-engineering program may be completed while classified as UF in the College of Liberal Arts and Sciences or, in most instances, with the pre-engineering Associate of Arts degree program offered by the various community colleges in Florida.

Civil Engineering is a broad discipline of study that influences the life of all society. The requirements to enter the profession are rigorous and the academic program is longer, therefore, than those of many other disciplines. The program requires completion of 140 semester hours and most students should plan on an educational period of five years.

All courses required for the BSCE degree will be listed in the University of Florida Bulletin with an indication of the probable term, Fall or Spring, in which they will be taught. Courses will be offered as announced but there is no certainty they will be offered at other times during the year. Students should familiarize themselves with the degree requirements and arrange their schedule accordingly. Faculty advisers will assist the students in planning their program.

Admission Requirements:

Students entering the College of Engineering for study in Civil Engineering are expected to have completed the pre-professional program described in the College of Liberal Arts and Sciences section of this bulletin or a pre-engineering program leading to the Associate of Arts degree. A minimum grade point average of 2.25 is required for admission to the Department of Civil Engineering. In addition, a C average is required for all sequential courses including a grade of C or better in the final course of the sequence.

Degree Requirements:

A grade of C or better is required for Statics and Computer Programming and for all courses shown as Group B in the following and as prerequisites for more advanced courses in the program. A grade point average of 2.0 is required for all courses in the upper division and for all civil engineering courses for graduation.

All students must take the Engineering Intern Examination offered by the Department of Professional Regulation.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL ENGINEERING

See the College of Liberal Arts and Sciences (Students Classified UF) portion for pre-engineering curriculum.

Pre-Engineering Requirements	59
*EGM 3511 Engineering Mechanics-Statics	3
SUR 3101 Engineering Measurements	2

Students must complete all of the pre-engineering courses or be co-registered for the final courses of this portion of the program before they will be permitted to register for upper division courses.

GROUP A—These courses may be completed at any time after the student has achieved upper division status and has satisfied the necessary prerequisites for each.

EEL 3003 Elements of Electrical Engineering	3
SUR 4201 Route Geometrics	3
TTE 4104 Fundamentals of Transportation Engineering	3
ECI 4137 Civil Engineering Cost Analysis	3
ECI 4145 Construction Methods and Management	3
STA 3032 Engineering Statistics	2
EML 3100 Thermodynamics	3
GLY 2026 Engineering Geology	3
EGN 4036 Engineering Professionalism and Ethics	2

GROUP B—These courses must be completed satisfactorily before any of the courses in Group C are attempted. A student may register for Group C courses during the term in which he is taking the last of the Group B courses. The pre- or co-requisite requirements for any courses listed here must be satisfied before registration for the course.

*EGM 3520 Mechanics of Materials	3
*EGM 3400 Engineering Mechanics (Dynamics)	2
ECI 3213 Hydrodynamics	4
CES 3123 Mechanics of Engineering Structures	4
ECI 4314 Soil Mechanics	3
ECI 3403 Civil Engineering Materials	3
Free Elective	2

GROUP C—All courses in Group B must be completed satisfactorily and all prerequisites satisfied before courses in this group may be attempted. The technical elective (design) may not be taken earlier than the student's penultimate term.

ECI 4131 Construction Contracts and Specifications	2
ECI 4214 Hydraulics	3
ENC 3213 Technical Writing and Business Communication	2
CES 3103 Stress Analysis	2
ECI 4305 Geotechnical Engineering	3
CES 4705 Analysis and Design in Reinforced Concrete	3
ECI 4041 Computer Programming for Civil Engineers	3
ENV 4404 Water Supply and Wastewater Removal	3
ENV 4514 Treatment of Water and Wastewater	3
CES 4607 Analysis and Design in Steel	2
**Technical Elective (Design)	3

*Students may choose the option of taking the 4/3 sequence in engineering mechanics instead of the 3/3/2 as shown.

**This course must be chosen from the following list. Deviation from this list must have Departmental approval.

ECI 4635 Advanced Hydrology	3
TTE 4724 Transportation Facility Design	3
CES 4704 Design of Reinforced Concrete	3
CES 4034 Civil Engineering Estimating	3
ECI 5325 Foundation Design	3
Total hours	140

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF LAND SURVEYING

A degree program in Land Surveying is offered through the Civil Engineering Department. Present land values and high rates of land development require today's surveyor to perform professional services and make decisions that have far reaching effects. The land surveying degree program prepares the student for a lifetime of work in this challenging profession. The curriculum not only includes courses in surveying, but also provides a broad background in communications, basic science, mathematics, business principles, and computer utilization. A co-op program is required and is provided through the efforts of professional surveyors to insure that all surveying graduates serve a two semester training period before graduation.

Pre-Land Surveying Requirements

Comprehensive English	6
Social Science	6
Humanities	9
CHM 2040 General Chemistry	4
MAC 3311 Analytical Geometry & Calculus 1	4
MAC 3312 Analytical Geometry & Calculus 2	4
MAC 3313 Analytical Geometry & Calculus 3	4
PHY 2053 General Physics	4
PHY 2054 General Physics	4
COP 3212 Computer Programming for Engineers	2
SUR 3660 Professional Drafting for Surveyors	1
SUR 3101 Engineering Measurements	2
ACC 2001 Intro to Accounting	4
*BOT Biological Science Elective	3
Subtotal	57

*This course must deal with the identification and classification of plants.

Upper Division Requirements

Construction/Business/Planning	
ENC 3352 Basic Technical Writing	3
ECI 414S Construction Methods & Management	3
ECI 4137 Civil Engineering Cost Analysis	3
REE 3043 Real Estate Analysis	4
REE 4430 Real Estate Law	3
**Land Planning Elective	3
Science	
AST 3623 Kinematic Astronomy	2
GLY 2026 Geology for Engineers	3
Measurement Science	
STA 3032 Engineering Statistics	2
SUR 3520 Measurement Science	4
SUR 3521 Field Measurement Systems	3
SUR 3640 Surveying Computations	2
SUR 3331 Photogrammetry	2
ECI 4041 Computer Programming for Civil Engineers	3
Surveying/Mapping	
SUR 4452 Land Development Systems	2
SUR 4501 Geodetic & Control Surveying	4
SUR 4462 Subdivisions	2
SUR 3403 Land Surveying Principles	3
SUR 4430 Land Surveying Practice	3
SUR 4350 Photogrammetric Geometronics	3
SUR 4201 Route Geometrics	3
SUR 4912 Senior Project	2
***SUR Surveying Elective	1
Co-operative Education	2

**Land Planning elective may be chosen from the following list:

URP 4000 Urban & Regional Planning	5
REE Urban Land Use Analysis	5
ECI 5186 Public Works Planning	3

***Surveying elective may be chosen from the following list:

SUR 3010 Forest Surveying	1
SUR 3202 Construction Surveying	1
SUR 3620 Interactive Land Data Computer Systems	3
SUR 4305 Marine Surveying and Mapping	2
SUR 4450 Cadastral Information	1
Total	122

COMPUTER AND INFORMATION SCIENCES

Bachelor's degrees in Computer and Information Sciences are offered by the inter-college department of Computer and Information Sciences. The engineering curriculum involves a sound background in mathematics, science, and engineering as a part of the common engineering core. In addition to these courses, students receive courses which provide basic knowledge related to theory, design, and applications of computers and information processing techniques.

Students may then specialize in several related areas including information processing, software systems, computer systems, and the application of computers in engineering.

The department makes extensive use of the excellent computing facilities of the Northeast Regional Data Center and has over 20 minicomputers and microcomputers in its own laboratories.

Graduates of the program are prepared for employment in the computer industry in Florida and elsewhere. The broad scope of the program enables the student to pursue many different career paths related to computers and their uses.

Opportunities for cooperative education are available. The department also offers degrees through the colleges of Business Administration and Liberal Arts and Sciences.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (COMPUTER AND INFORMATION SCIENCES)

The curriculum in Computer and Information Sciences requires a minimum of 135 semester credits as shown in the following list.

	Credits
Pre-Engineering Program	57
COC 3110 Introduction to CIS	3
CDA 3101 Introduction to Computer Organization	3
COP 3530 Data and Program Structures	4
COP 3603 Software System Design	3
COP 4620 Systems Programming	3
COP 4640 Translators and Translator Writing Systems	3
COT 3001 Applied Discrete Structures	3
CNM 4110 Numerical Analysis-A Computational Approach	3
EEL 3701 Introduction to Computer Engineering	4
EEL 4744 Microprocessors	4
EIN 4354 Engineering Economy	2
CIS 4905 Senior Project	3
MAS 3114 Linear Algebra	3
STA 3032 Engineering Statistics	2
STA 4033 Mathematical Statistics with Computer Applications	2
ENC 3213 Technical Writing and Business Communication	2
Engineering Core	9
Restricted Technical Electives	5
Technical Electives	9
Non-Technical Electives	5
Free Electives	3
Total	135

ELECTRICAL ENGINEERING

Electrical Engineering is a science oriented branch of engineering primarily concerned with all phases and development of the transmission and utilization of power and in-

telligence. The study of electrical engineering is commonly divided into the academic areas of circuits, electronics, fields, electric energy engineering, communications, control, and computer engineering.

Because of the extremely rapid growth and changes relating to the application of electrical engineering principles, the curriculum is designed for concentration on a solid core of the basic foundation courses rather than on a sampling of application courses which may soon become obsolete. Because of the strong core program, the electrical electives are considered primarily as courses to be taken according to individual interest in order to permit a student to delve deeply into subject matter previously introduced. Technical electives, as well as nontechnical electives, must be selected from the approved lists of the Electrical Engineering Department.

The department's extensive laboratory facilities and varied research programs will assist in highlighting both the experimental and theoretical approaches to electrical engineering.

Beyond the baccalaureate degree the department offers graduate programs for students interested in advanced degrees. As more and more students are continuing to further their education in the graduate schools of the nation, it is advisable that those who may become qualified seek early counseling. Even as early as the sixth and seventh semesters, the course work in many cases may be directed toward future graduate work. Certainly, the choice of electives taken during the last few semesters of the undergraduate curriculum may relate to areas of interest to be pursued in the graduate program.

Degree Programs: The Electrical Engineering Department offers the following degrees: Bachelor of Science in Electrical Engineering, Master of Engineering, Master of Science, Engineer, and Doctor of Philosophy.

Admission: The number of applicants who can be accepted is limited by the available classroom and laboratory space, laboratory facilities, and faculty. That number varies because of normal fluctuations in the number of students who graduate and who leave the program. It is the department's policy to admit the best-qualified applicants as demonstrated by high academic achievement, within the enrollment limitations discussed above.

Accordingly, those applicants with less than an overall 2.5 grade point average or less than a 2.7 average in calculus and physics (with calculus) lecture courses will ordinarily not be admitted. Regardless of the number of openings available, those applicants with an overall 2.7 grade point average and with a 3.0 average in both calculus and physics (with calculus) lecture courses will ordinarily be admitted. These admission standards will be lowered if there are more openings than usual.

Once admitted to the program, an electrical engineering student shall maintain satisfactory progress — generally C or better in all required courses—and an overall grade point average of 2.0 or higher. In particular, an electrical engineering student cannot take an electrical engineering course without having earned a minimum grade of C in the prerequisite electrical engineering courses.

In addition to the other requirements for a B.S.E.E., a student must have at least a 2.0 grade point average in all electrical engineering courses taken, both required and elective. If a course is repeated, both grades count in this grade point average.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

The curriculum in electrical engineering requires completion of the following program in addition to the freshman-sophomore requirements.

Pre-Engineering Program	60
Upper Level Program	*Credits*
EEL 3111 Circuits 1	3
EEL 3112C Circuits 2	4
EEL 3304 Electronic Circuits	3
EEL 3396 Solid-State Electronic Devices	3
EEL 3135 Signals and Systems	3
EEL 3472 Electromagnetic Fields and Applications 1	3
EEL 3701C Introduction to Computer Engineering	4
EEL 3211 Basic Electric Energy Engineering	3
EEL 4514 Communication Systems and Components	3
EEL 4657 Linear Control Systems	3
At least four of the five following laboratories must be taken: EEL 3303L, 4201L, 4304L, 4514L, 4914L Electrical Engineering Laboratories	4
Mathematics or Statistics Elective	3
*EML 3100 Thermodynamics	3
*EGM 3511 Statics	3
ENC 3213 Technical Writing and Business Communication	2
**Technical Electives	22
Nontechnical Electives	4
Free Electives	2
Total Credits Required	135

*May substitute other courses from an approved list, copies of which may be obtained from the Electrical Engineering Departmental Office in LAR 216.

**Must include at least 12 hours of electrical engineering electives.

ENGINEERING SCIENCES

The Department of Engineering Sciences offers bachelor's degree programs in Aerospace Engineering and in Engineering Science. At the graduate level it offers programs leading to master's degrees and the Engineer degree in Aerospace Engineering, in Engineering Mechanics, and in Engineering Science. The Doctor of Philosophy degree is offered in Aerospace Engineering and in Engineering Mechanics, with specialized tracks in the latter discipline in engineering analysis and applied mathematics and in theoretical and applied mechanics, and coastal and oceanographic engineering.

The department is committed to excellence in both teaching and research. Through active and diverse research programs, the professional competence of the faculty is maintained and both undergraduate and graduate students have opportunities to participate in exciting programs dealing with problems at the forefront of science, technology, and societal needs.

Admission Requirements: The baccalaureate programs, both in Aerospace Engineering and in Engineering Science, are selective admission programs. Admission decisions are made by a faculty committee according to the following criteria:

1. Students making normal progress toward completion of pre-engineering prerequisite courses and who have earned an overall grade point average of 2.5 or higher will ordinarily be admitted; those with 2.3 and lower will ordinarily not be admitted.

2. The admissions committee will consider the following additional factors in reaching its final decision: performance in calculus, physics, and chemistry courses completed, and other evidence of motivation and suitability for a career in Engineering Science or Aerospace Engineering, as appropriate, including performance in relevant work experience.

These criteria are applicable to all students, independent of the location of their lower division work.

Aerospace Engineering Program: See alphabetical listing of degree programs under College of Engineering section for details of the curriculum.

UNDERGRADUATE PROGRAM IN ENGINEERING SCIENCE

Engineering Science is a fully accredited Engineering degree program providing a broad, strong foundation in mathematics, science and engineering, coupled with unusual flexibility to create individualized, nontraditional areas of emphasis or concentration. The program is intended for

good students who wish to design personalized curricula satisfying special interests and objectives. Commonly, these students are seeking a program emphasizing:

- combinations of conventional disciplines,
- a particularly broad foundation for graduate study in a chosen field,
- preparation for professional schools such as medicine, law or management,
- new, uncommon or recently significant areas of study which do not fit well within traditional curricula.

The Engineering Science program accommodates this wide range of objectives by providing a large selection of elective courses. Students and their advisors cooperate in choosing these electives to custom design curricula to fit individual interests and educational goals. The number of possible areas of concentration is almost limitless and new concentrations are continually being created by students. Recently designed concentrations include:

- Applied Mathematics and Computer Science
- Applied Physics
- Automation and Manufacturing Systems
- Avionics
- Biomechanics
- Biomedical Engineering
- Coastal and Oceanographic Engineering
- Composite Materials
- Control of Dynamical Systems
- Creative Product Design
- Optics and Lasers
- Environmental Engineering
- Energy Management and Planning
- Experimental Mechanics
- Fluid Mechanics
- Hospital Administration
- Instrumentation of Mechanical Systems
- Operations Research
- Pre-dental
- Pre-law
- Pre-medical
- Regulatory and Consumer Protection
- Structural Mechanics
- Technical Management
- Wave Propagation
- Wind Engineering

These concentrations illustrate the broad spectrum of study areas which may be followed within the framework of this program. You may choose any of these areas or build a coherent program in some other area to meet your individual objective. Our advisers will guide you in designing your program. The Engineering Science Program requires a minimum of 135 credits and, for most students, at least nine semesters of residence. A sample term-by-term schedule is available on request.

Because of the individualized nature of the Engineering Science program it is recommended that students contact the Department of Engineering Sciences as early as possible. For additional information about any of the concentrations listed or to investigate creating your own, write, phone or visit the Department.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (ENGINEERING SCIENCE)

Courses	Credits
ENGLISH, HUMANITIES & SOCIAL SCIENCES	
*English	6
*Humanities	9
*Social Sciences	6
ENC 3213 Technical Writing and Business Communication	2
ANALYTICAL AND DESIGN TOOLS	
*MAC 3311 Analytical Geometry and Calculus 1	4
*MAC 3312 Analytical Geometry and Calculus 2	4
*MAC 3313 Analytical Geometry and Calculus 3	4
*EGM 3311 Intro. to Engineering Analysis	3
EGM 4312 Engineering Analysis 1	4
EGM 4313 Engineering Analysis 2	4
EGM 4344 Intro. to Numerical Methods of Engineering Analysis	3
*EGN 1111 Engineering Graphics	2
*COP 3212 Computer Programming for Engineers	2
Statistics Elective	2
BASIC SCIENCE	
*CHM 2042, 2042L, 2043C General Chemistry (or CHM 2040, 2041, 2042L, 2043C)	8
*Biological Science	3
*PHY 2048 General Physics with Calculus 1	3
*PHY 2048L Lab for PHY 2048	1
*PHY 2049 General Physics with Calculus 2	3
*PHY 2049L Lab for PHY 2049	1
PHY 3123 Modern Physics 1	3
ENGINEERING SCIENCE AND DESIGN	
EAS 4412 Synthesis of Guidance and Control Systems	3
EAS 4803 Instrumentation System Synthesis	3
**EEL 3003 Elements of Electrical Engineering	3
**EEL 3303L Electronics Laboratory 1	1
***EGM 3420 Engineering Mechanics (or EGM 3511 and EGM 3400)	4
EGM 3520 Mechanics of Materials	3
EGM 4000 Engineering Design 1	3
EGM 4001 Engineering Design 2	3
EGM 4008 Intro. to Engineering Optics	3
EGN 3353 Fluid Mechanics	3
EMA 3010C Materials 1	3
Thermodynamics Elective	3
****General Electives	23
Total	135

*Pre-engineering Program Requirements

**May be replaced by EEL 3111 and EEL 3112 by students whose career goals require more intensive EEL preparation.

***A minimum grade of 'C' in either EGM 3420 or EGM 3511 is required.

****General electives shall include at least 3 credits of humanistic/social science, and at least 10 credits of engineering-related courses. Subject to these restrictions, the student may choose electives from throughout the University, provided they form a coherent group of courses directed toward a clearly defined objective and are approved by the student's departmental counselor.

ENVIRONMENTAL ENGINEERING SCIENCES

Environmental Engineering Sciences is a rapidly developing field in which the application of engineering and scientific principles is used to protect and preserve human health and well-being through the control of the environment. Initially concerned only with water resources and the treatment or protection of drinking water supplies, the field first became known as Sanitary Engineering. Now, since it embraces the broad field of the general environment, including air, food, shelter, radiological health, transportation and accident prevention as well as water, the term Environmental Engineering Sciences is preferred.

During recent years, there has been such an unprecedented demand for environmental engineers that there are many more positions open than there are properly qualified graduates to fill them. It has been estimated that the number of environmental engineers employed in health departments alone will have to be more than doubled to supply the present need. Increasing activities in many applications of nuclear energy are likewise demanding individuals with special training in environmental control. Hazards and wastes from research, reactor operation, radiological procedures and tracer techniques are problems which are properly the concern of these specialists and require more qualified persons than are presently available.

Water resources are under constant threat of pollution from the sewage of an ever expanding population and from the multitude of new chemicals being developed by our technological society. Handling and disposing of toxic wastes has become one of the most critical problems facing

environmental engineers today, and unfortunately, there is a severe shortage of specialists trained in this field.

The growing importance of atmospheric pollution problems has led many industries to give increased attention to this phase of waste disposal. Graduates from Environmental Engineering Sciences programs are being called upon by industry to apply their special knowledge in conducting surveys and formulating abatement programs which will not merely transfer the pollution from the air to other areas of the environment.

The reasons for this expanding field of opportunity are due largely to the impact of advancing technology on modern community living. With each new development there has been a period of transition during which the pollution control specialist has been called upon to broaden activities to keep pace with progress and new developments in environmental protection and public health.

This process of evolution has manifested itself in so many different aspects of environmental concern that environmental engineering has become one of the broadest and most challenging of all careers. Advances in technology create more demands for environmental engineers Every new manufacturing plant, every new chemical industry, new improvements in nuclear science and in transportation — all increase the number and magnitude of problems for these specialists to solve.

It is becoming increasingly apparent that the environment cannot be sectionalized, but rather, it must be viewed as one continuous entity consisting of air, water, land, and people. This ecological concept has given rise to a new approach to environmental problems known as environmental systems management or systems ecology. To function in this area, an individual needs a broad background, not only in the basic sciences and engineering but also in medical sciences, law, economics, and political science. Students in other fields are encouraged to join with the engineers in this program by selecting environmental engineering sciences courses and, when suitable, to undertake master's and doctoral research at the interface between environmental engineering sciences and their major field.

Historically, degree programs in Environmental Engineering Sciences have been at the graduate level. However, responding to the tremendous demand for people trained in this field, the Department of Environmental Engineering Sciences initiated an undergraduate degree in 1972. The requirements for this degree, Bachelor of Science in Engineering (Environmental Engineering), are given below. In addition, the Department of Chemical Engineering, the Department of Civil Engineering and the Department of Engineering Sciences permit their students to pursue technical concentration in Environmental Engineering Sciences. This is accomplished through the selection of appropriate technical elective courses taught by the Department of Environmental Engineering Sciences. Persons with pre-medical interests can satisfy admission requirements for medical school with this program and judicious selection of electives. Students from other departments are also welcome to take courses in Environmental Engineering Sciences to the extent allowed by their backgrounds.

Degree Programs: The Department of Environmental Engineering Sciences offers the following degrees: Bachelor of Science in Engineering, Master of Engineering, Master of Science, the Engineer Degree and Doctor of Philosophy.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (ENVIRONMENTAL ENGINEERING)

The curriculum for the Bachelor of Science in Engineering (Environmental Engineering) is as follows:

Required Courses	Credits
Pre-Engineering Program	57
BSC 2010 & 2011 Integ. Princ. of Biol I and II	8
EES 2001 Concepts of Environ. Engr. Sci	1
ENV 4404C Water Supply & Wastewater Removal	3
ENV 4514C Treatment of Water and Wastewater	3
EES 4004 Environmental Engineering Sciences	3
EMA 4001 Materials I	3
EEL 3003 Electrical Engineering	3
EGN 3353 Fluid Mechanics (or ECI 3213 Hydrodynamics)	3 (4)
ENV 3420 Statics and Dynamics	4
*EML 3100 Thermodynamics I	4
AEB 3103 Prin. of Food and Resource Economics	3
STA 3032 Engineering Statistics	2
ENC 3213 Technical Writing and Business Communication	2
ENV 4104 Elements of Atmospheric Pollution	3
EES 3020 Comput. Methods in Env. Engr. Sci	2
EES 4101C Environmental Microbiology	3
ENV 4201 Introduction to Radiological Health	3
EES 4035 Environmental Instrumentation	2
Subtotal	112

Restricted Science and Engineering Electives (select 12 credits)

Courses	Credits
EES 4241C Introduction of Water Analysis	3
EES 5007C Ecology and General Systems	4
EES 4401 Public Health Engineering	3
ENV 4351 Solid Waste Management	3
OCE 4016 Intro. to Coast. & Ocean. Engr.	3
PCB 3043 Intro. to Ecology	3
GLY 2026 Engineering Geology	4
ESI 5309 Survey of Operations Research	4
ECI 4137 Civil Engr. Project Cost Analysis	3
CHM 3200 Organic Chemistry	3
PHY 3123 Modern Physics I	3
EGN 1111C Engineering Graphics	2
EML 4416 Solar Energy	3
*XXX YYYY Undesignated Technical Elective	3
	12

Restricted Engineering Design Electives (select 8 credits)

Courses	Credits
ENV 4431 Sewerage System Design	3
ENV 4432 Potable Water System Design	3
ENV 4408 Water Treatment Process Design	4
ECI 4214 Hydraulics and Water Resources Engr.	3
ENV 4021C Basic Concepts of Water & Wastewater Treat.	4
*XXX YYYY Undesignated Design Elective	3
	8
**Non-Technical Electives	6
Total Semester Hours	138

*Approval by ENV Advisor Required

**At Least 3 Credits of the General Electives must be in a Socio-Humanistic Area.

The Department of Environmental Engineering Sciences requires a C or better grade in all courses with ENV and EES prefixes.

This program has been accredited by the Accreditation Board for Engineering and Technology.

INDUSTRIAL AND SYSTEMS ENGINEERING

Rapid industrial growth has created unusual opportunities for the industrial and systems engineer. The advent of automation and the emphasis on increased productivity coupled with higher levels of systems sophistication are providing impetus to the demand for the engineering graduate with a broad interdisciplinary background.

The industrial engineering option prepares the student for industrial practice in such areas as product design, process design, plant operation, production control, quality control, facilities planning, work system analysis and evaluation, and economic analysis of operational systems.

The systems engineering option emphasizes the integration of knowledge and technology from the engineering, biological, and physical sciences to carry out the processes of description, analysis, synthesis, and optimization in both the industrial and non-industrial setting. Furthermore a student in this area learns to define problems from a broad perspective in which the contributions of individual components to a total mission is clearly seen.

Students in both options are trained to use engineering principles in the solution of problems encountered in environments and situations where a quantitative basis for decision making is desirable. Such decision making requires the application of the tools of economics, operations research, statistics, mathematics, and engineering analysis, with dependence on the computer. The industrial engineering option equips the student for professional engineering practice while the systems engineering option further prepares the student to carry out analysis and design of large scale operations requiring diversified inputs. Both options provide the training necessary for admission to graduate study.

Degree Programs: The Industrial and Systems Engineering Department offers the following degrees: Bachelor of Science in Industrial and Systems Engineering, Master of Engineering, Master of Science, the Engineer Degree, and Doctor of Philosophy.

Admission Requirements: The Department of Industrial and Systems Engineering is a "selective admissions department." A student should apply one term prior to the completion of those chemistry, physics, and calculus courses which are part of the pre-engineering requirements. Students with a 2.7 cumulative average as well as a 2.7 cumulative average in physics and calculus are usually assured of admission. Those whose cumulative average and average of the physics and calculus grades are below 2.4 will usually be denied admission. In borderline cases grades in required chemistry, computer programming, and differential equations courses will also be taken into consideration. Some students may be admitted on a probationary basis which requires that they be placed on a "planned program."

Special Grade Requirements: A grade of C or better is to be earned in each *required* statistics course and each *required* course taught by the Industrial and Systems Engineering Department in order for that course to count toward graduation. Students earning less than a C grade in such a course will be required to repeat the course as soon as possible. Note that statistics or departmental courses taken as *electives* do not fall under this rule.

Departmental Probation Policy: The Department enforces a probation policy which is more stringent than either that of the University or the College. A student is automatically placed on Departmental Probation when his/her Upper Division Grade Point Deficit equals or exceeds the following: 15 for 3EG students, 10 for 4EG students, and 5 for 5EG students. A student who is on Departmental Probation at the start of a term of attendance is expected to rectify this condition at the end of the same term. For additional details, consult the Departmental Office.

CURRICULA LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN INDUSTRIAL AND SYSTEMS ENGINEERING

This degree may be achieved through either (A) the Industrial Engineering option, or (B) the Systems Engineering option. The two curricula are presented below.

(A) INDUSTRIAL ENGINEERING OPTION

(1) The following courses are normally taken as part of the pre-engineering program:

English 6
(See approved list of general education requirements)
General Chemistry 8
(1) CHM 2042, 2042L, 2043C, or
(2) CHM 2040, 2041 concurrently with 2042L, 2043C
Mathematics 15
(1) MAC 3311, 3312, 3313, and
(2) MAP 3302 or EGM 3311
Physics with Calculus 8
PHY 2048, 2048L, 2049, 2049L
Computer Programming 2
* COP 3212

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(2) The following courses may be taken at any time (subject to prerequisite constraints) during the program:

Humanities 9
(See approved list of general education requirements and those approved courses included in the Humanities Perspectives on the Professions)
Social Science 6
(See approved list of general education requirements)
Biological Sciences 3
(See approved list of general education requirements)
Accounting 3
ACC 2001
Graphics 2
EGN 1111
Physical Education 0
Numerical Methods 2
* CNM 3100

25

(3) Most of the following required courses are normally taken after admission to the Department:

Statistics 6
* STA 4321, 4322
Mechanics 7
(1) EGM 3420, 3520, or
(2) EGM 3511, 3400, 3520
Electrical Engineering 3
(1) EEL 3111, or
(2) EEL 3003
Thermodynamics 3
EML 3100
Materials 3
EMA 3010C
Technical Writing and Business Communication 2
ENC 3213
Microeconomics 3
(1) AEB 3103, or
(2) Counselor-approved substitute in microeconomics
Technical Electives 12
Counselor-approved courses which must include at least one of the following:
(1) ESI 4161C Industrial Applications of Microprocessors 3
(2) ESI 3123 Analog Computer Principles 2
(3) ESI 3154C Process Control Computer Programming 3
(4) EEL 3701C Introduction to Computer Engineering ... 4

Major Courses (Subject to prerequisite constraints these courses are listed in the approximate order in which they should be taken)

*ESI 4567 Matrix Methods in Systems Engineering 3
*ESI 4221 Industrial Quality Control 3
*ESI 4568 Transform Methods in Systems Engineering 3
*EIN 4354 Engineering Economy 2
*ESI 4312, 4313 Operations Research 1, 2 6
*EIN 3314L Work Design and Human Factors 3
*EIN 4365 Facilities Planning and Materials Handling 3
*ESI 4523 Industrial Systems Simulation 3
*EIN 4333 Production and Inventory Control 4
*EIN 4335 Production Systems Analysis and Design 3

72

Total 136

(B) SYSTEMS ENGINEERING OPTION

The curriculum for this option may be obtained from the Industrial Engineering option by deletion of:

1) ACC 2001 3
2) EGM 3520 3

3) AEB 3103 (or its approved substitute)	3
4) EIN 4365	3
	12

followed by the addition of:

1) EEL 4657 Linear Control Systems	3
2) Another counselor-approved EEL course	3
3) * ESI 4235 Stochastic Systems and Reliability Models	3
4) * EIN 4355 Games and Economic Decision Models	3
	12

Students in this option must take EEL 3111, and not EEL 3003. The technical electives must be of a strongly technical orientation with at least (6) hours of concentration in a well-defined area.

*Grades of D or D+ are unacceptable in these courses except when taken as an elective.

INTERDISCIPLINARY ENGINEERING STUDIES

Students who wish to plan a program of study in engineering markedly different than programs described under the departmental descriptions should consult the Office of the Associate Dean. Requirements for admission to such an interdisciplinary studies program include (a) a strong educational commitment and (b) a high grade-point average, at least 2.5. The program requires approval of a committee consisting of three members of the engineering faculty and by the Associate Dean of the College, and must satisfy the minimum engineering science course requirements. Completion of the program leads to a B.S. degree.

MATERIALS SCIENCE AND ENGINEERING

Engineering in all of its branches requires the effective use of materials. The curriculum in Materials Science and Engineering offers preparation in the solving of problems in the development, manufacture, and utilization of a broad range of materials. Competence arises from a firm understanding of the fundamentals of chemistry, mechanics, solid state physics, and structure of materials. Thus, the Materials Engineer occupies a unique position between the science and the practice of engineering, which is advantageous in the wide variety of avenues of professional development open to him. Since progress with new engineering concepts is often dependent upon success in advancing the capabilities of materials, he is in constant demand in many segments of industry engaged in production, application, and research on materials and in private engineering practice. The Bachelor's Degree program provides a general materials science core with specializations in ceramics, metals, polymers and metals joining and fabrication.

For the student whose primary interest lies in research, a graduate program leading to advanced degrees is provided. The entire offering of courses at both the undergraduate and graduate levels is designed also to furnish electives for engineers in other specialties, who desire a more extensive understanding of materials than is given by the required courses.

Degree Programs: The Materials Science and Engineering Department offers the following degrees: Bachelor of Science in Engineering (Materials Science and Engineering), Master of Engineering, Master of Science, the Engineer Degree, and Doctor of Philosophy.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (MATERIALS SCIENCE AND ENGINEERING)

In addition to the 59 credits listed as Freshman and Sophomore requirements in the College of Engineering, the following courses are required for the Bachelor of Science in Engineering degree offered by the Department of Materials Science and Engineering.

Engineering College Core Courses	*Credits*
EEL 3003 Elements of Electrical Engineering	3
EGM 3511 Statics	3
EGM 3520 Mechanics of Materials	3
CNM 3100 Numerical Techniques	2
EMA 3010 Materials	3
STA 3032 Statistics	2
ENC 3213 Technical Writing and Business Communication	2

Materials Science Core Courses	*Credits*
EMA 3050 Ceramics Engineering	3
EMA 3066 Polymers Engineering	3
EMA 3123 Metallurgical Engineering	3
EMA 3413 Electronic Materials	3
EMA 3513 Analysis of Structure of Materials	3

Advanced Courses in Materials Science	*Credits*
EMA 4125 Microstructural Transformations in Materials	3
EMA 4223 Mechanical Behavior of Materials	3
EMA 4314 Energetics and Kinetics in MSE	3
EMA 4324 Stability of Materials	3
EMA 4524C X-Ray and Electron Metallography	3
EMA 4714 Materials Selection & Failure Analysis	3
EMA 4940 Field Trips	1

To complete the requirements for the degree, each student must elect one of the following 26 credit specializations.

Ceramic Specialty	*Credits*
EMA 4144 Physical Characteristics of Ceramics	3
EMA 4145 Ceramic Microstructures	3
EMA 4645 Processing of Ceramic Materials	3
EMA 4913 Research in MSE	2
EMA 4914 Research in MSE	2
Electives	13

Metals Specialty	
EMA 4121 Non-Ferrous Materials	4
EMA 4224 Mechanical Metallurgy	3
EMA 4634 Metal Fabrication	4
EMA 4623 Process Metallurgy	4
EMA 4522L Metallography Lab	1
EMA 4913 Research in MSE	2
EMA 4914 Research in MSE	2
Electives	6

Metals Joining and Fabrication Specialty	*Credits*
EMA 4121 Non-Ferrous Materials	4
EMA 4522L Metallography Lab	1
EMA 4580L Non-Destructive Testing Lab	1
EMA 4634C Metal Fabrication	4
EMA 4680 Metals Joining 1	3
EMA 4681 Metals Joining 2	3
EML 3005 Mechanical Engineering Design	3
Principles of Management	3
Business Law	3
Elective	1

Polymers Specialty	*Credits*
EMA 4161 Polymer Physics	3
EMA 4161L Polymer Physics Lab	1
EMA 4262 Mechanical Properties of Polymers	3
EMA 4262L Mechanical Properties of Polymers Lab	1
EMA 4666 Polymer Processing	2
EMA 4666L Polymer Processing Lab	2
EMA 4913 Research in MSE	2
EMA 4914 Research in MSE	2
Electives	10

Summary of Degree Requirements	*Credits*
Freshman and Sophomore Requirements	59
Engineering College Core Courses	18
Materials Science Core Courses	15
Advanced Courses in Materials Science	19
Specialty Courses	26
Total Requirements	137

MECHANICAL ENGINEERING

The broad scope of Mechanical Engineering makes it possible for a student pursuing a degree in this field to prepare for a wide variety of engineering careers. The core of the curriculum in Mechanical Engineering is centered upon the fundamentals of scientific and mathematical logic. Electives are available wherein a student may develop specialized interests in the engineering aspects of heat, work, motion and energy conversion.

Degree Programs: The Mechanical Engineering Department offers the following degrees: Bachelor of Science in Mechanical Engineering, Master of Engineering, Master of Science, Engineer Degree, and Doctor of Philosophy.

Admission: Mechanical Engineering is a "selective admission" department. Applicants with a 2.5 average (all attempts considered) in both Calculus and Physics (with calculus) lecture courses and no grade below C in these courses will ordinarily be recommended for admission.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

The following list of courses are those that must be completed to become eligible for the Bachelor's degree in Mechanical Engineering:

Freshman-Sophomore Requirements	59
*ENC 3213 Technical Writing and Business Communication	2
STA 3032 Engineering Statistics	2
EMA 3010C Materials	3
*EGM 3420 Engineering Mechanics	4
*EGM 3520 Mechanics of Materials	3
EEL 3003 Elements of Electrical Engineering	3
EEL 3303L Electronics Lab 1	1
EEL 3368 Electronics Sys. and Instrumentation	2
EML 3005C Intro to Mech Engr Design	3
EML 3301C Instruments and Measurements Lab	2
*EML 3202 Mechanisms and Kinematics	3
EML 3260 Machine Dynamics	3
EML 3321 Manufacturing Processes	2
EML 4522 Mechanical Engineering Analysis	2
EML 4220 Mechanical Vibrations	3
*EML 4500 Machine Analysis and Design 1	3
***EML 4501 Machine Analysis and Design 2	3
*EML 3100 Thermodynamics 1	3
*EML 3101 Thermodynamics 2	3
EML 4140L Thermal Sciences Lab 1	1
**EML 4141L Thermal Sciences Lab 2	1
*EML 4142 Mass, Momentum, Energy Transfer 1	3
*EML 4143 Mass, Momentum, Energy Transfer 2	3
**EML 4144 Mass, Momentum, Energy Transfer 3	2
EML 4920 Professional Orientation	1
EML 4936 Seminar	1
Liberal Studies Elective	3
Restricted Design Elective	3
Technical Electives	12
Total hours required	136

*Minimum grade of C required.
**Required in Thermal Sciences option
***Required in Machine Sciences option.

TECHNICAL ELECTIVES

See Undergraduate Coordinator for acceptable technical electives.

NUCLEAR ENGINEERING SCIENCES

Nuclear Engineering Sciences comprises those fields of engineering and science directly concerned with the release, control and safe utilization of nuclear energy. Applications range over such broad topics as the design, development and operation of nuclear reactor power systems to the applications of radiation in medicine, environmental sciences and other related disciplines. The nuclear engineer, by virtue of his engineering and science-based training, is in a unique position to contribute to the many diverse aspects of this major component of the energy field.

The nuclear engineering program has sufficient flexibility so that the proper choice of electives will allow emphasis in nuclear power technology, radiation safety, nuclear instrumentation, radio-isotope applications, and other specialized areas. A full complement of experimental facilities are available; major facilities include: a 100 KW training reactor, a 4 MeV Van de Graaff accelerator, a whole body counter, a PDP-11 digital computer with multiple terminals and with interface capability with the main university computing facility and a highly multiplicative subcritical assembly with a 14 MeV neutron generator. The department also has plasma and laser research facilities as well as a large amount of specialized nuclear instrumentation.

Degree Programs: The Department of Nuclear Engineering Sciences offers the following degrees: Bachelor of Science in Engineering (Nuclear Engineering), Bachelor of Science (Nuclear Engineering Sciences), Master of Engineering, Master of Science, Engineer, and Doctor of Philosophy. Also, students with special requirements may establish an interdisciplinary engineering program leading to the Bachelor of Science degree (see general College of Engineering regulations).

For further information and for assistance in curriculum planning students interested in nuclear engineering should contact the Nuclear Engineering Sciences undergraduate counselor.

Admission: Nuclear Engineering Sciences is a "selective admissions" department. In the evaluation of applicant's transcripts, greater weight is given to academic performance in mathematics and the physical sciences. Refer to the Department for additional information.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (NUCLEAR ENGINEERING)

The following courses must be completed by upper division students to be eligible for the BSE(NE) degree. For the lower division requirements refer to the Pre-Engineering Curriculum.

Courses	*Credits*
Pre-Engineering Program	57
ENC 3213 Technical Writing and Business Communication	2
EMA 3010 Materials 1	3
PHY 3123 Modern Physics 1	3
EEL 3111 Circuits 1	3
EEL 3303L Electronics Lab 1	1
EGM 3511 Engineering Mechanics-Statics	3
EGM 3520 Mechanics of Materials	3
MAP 4305 Introduction to Differential Equations for Engineers and Physics Scientists	3
*MAS 4156 Introduction to Vector Analysis	3
ENV 4241 Fundamentals of Radiation Protection	3
EML 4142 Mass Momentum & Energy Transfer 1	3
EML 3100 Thermodynamics 1	3
ENU 4103 Nuclear Engineering 1	3
ENU 4104 Nuclear Engineering 2	3
ENU 4144 Nuclear Power Reactor Systems 1	3
ENU 4505L Nuclear Engineering Laboratory 1	2
ENU 4134 Thermodynamics, Heat & Mass Transfer in Nuclear Systems	3
ENU 4192 Nuclear Power Reactor Design	3
ENU 4605 Interaction of Radiation with Matter	3
ENU 4612 Nuclear Instrumentation Systems	3
ENU 4612L Nuclear Instrumentation Systems Lab	1
ENU 4704 Advanced Concepts for Nuclear Energy	3
Nontechnical Electives	5
Engineering Science Electives	6
Design or Technical Electives	6
Total	135

Recommended Non-Departmental Engineering Science and Technical Electives

CNM 3100 Numerical Techniques
EGM 3311 Introduction to Engineering Analysis
EGM 3400 Engineering Mechanics — Dynamics
EGM 4200 Fundamental Vibration Analysis
ECI 3213 Hydrodynamics
ECI 4214 Hydraulics
EML 3101 Thermodynamics 2
EML 4143 Mass Momentum and Energy Transfer 2
EML 4144 Mass Momentum and Energy Transfer 3
EML 4220 Mechanical Vibrations
EML 4450 Energy Conversion
ECH 3803 Chemistry in Engineering
EEL 3211 Basic Electric Energy Engineering
EEL 3396 Solid State Electronic Devices
EEL 4657 Linear Control Systems
EEL 3472 Electromagnetic Fields and Applications 1
EEL 3473 Electromagnetic Fields and Applications 2
EMA 3413 Electronic Properties of Materials
EMA 4121 Materials 2
EMA 4144 Physical Characteristics of Ceramics

It should be noted that the above is not a complete list of acceptable engineering science and technical electives but represents those commonly recommended.

*MAA 4402 Elements of Complex Variables for Engineers & Physical Scientists or
MAS 3114 Computational Linear Algebra are acceptable substitutes.

DEPARTMENTAL ENGINEERING SCIENCE AND TECHNICAL ELECTIVES

Students are encouraged to concentrate several elective courses in one discipline of their choice in order to achieve solid familiarity with this "minor" field of study. The design or technical electives together with the engineering science electives, chosen in consultation with the departmental counselor, allow specialization in such areas as Reactor Engineering, Reactor Operations, Radioisotopes and Nuclear Radiation Technology and Radiation and Living Systems.

The following elective courses are available through the department:

ENU 4304 Applications of Nuclear Radiation and Energy 1
ENU 4405 Nuclear Processing and Separations
ENU 4185 Reactor Fuel Management
ENU 4145 Nuclear Reactor Safety and Risk Analysis
ENU 5176L Principles of Nuclear Reactor Operations
ENU 5146 Fundamentals of Reactor Safety: Operational Transients and Accident Analysis
ENU 5186 Reactor Fuel Cycles
ENU 5196 Nuclear Power Plant System Dynamics and Control
ENU 5414 Isotope Separation

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE (NUCLEAR ENGINEERING SCIENCES)

The following courses must be completed by upper division students to be eligible for the BS (NES) degree. For the lower division requirements refer to the Pre-Engineering Curriculum. This degree is designed for those students interested in pursuing a nuclear oriented degree with an emphasis on the sciences rather than on engineering. Typical emphasis or option areas are radiation protection (health physics) and engineering physics (plasmas, fusion, lasers, etc.).

Courses	Credits
Pre-Engineering	57
ENC 3213 Technical Writing and Business Communication	3
EMA 3010 Materials 1	3
EGM 4312 Engineering Analysis 1	4
EGM 4313 Engineering Analysis 2	4
EEL 3003 Elements of Electrical Engineering	3
PHY 3123 Modern Physics 1	3
EML 3100 Thermodynamics 1	3
ENU 4103 Nuclear Engineering 1	3
ENU 4104 Nuclear Engineering 2	3
ENU 4605 Interaction of Radiation with Matter	3
ENU 4905 Special Problems In NES	8
Option Electives	15
Other Electives	23
Total	135

Example Option Area (Radiation Protection) Electives

Course	Credits
ENU 4144 Nuclear Power Reactor Systems	3
ENU 4505L Nuclear Engineering Lab 1	2
ENU 4304 Applications of Nuclear Radiation and Energy 1	2
ENU 4612 Nuclear Instrumentation Systems	3
ENU 4613L Nuclear Instrumentation Systems Lab	1
ENU 5176L Principles of Nuclear Reactor Operations	3
ENU 5625 Bionucleonics	2
ENU 5626 Radiation Biology	4
ENV 4241 Fundamentals of Radiation Protection	3
ENV 6216 Radioactive Wastes	3
ENV 6286 Electronic Product Radiation	3
APB 5415 Radioisotope Theory and Techniques	4
CHM 3210 Organic Chemistry	3
CHM 3211 Organic Chemistry	3

STUDY ABROAD PROGRAM

An unusually attractive program is available for a small number of highly qualified students to study for a full academic year at the Institut National des Sciences Appliquees (INSA) in Lyon, France, and receive credit towards their B.S. degrees at the University of Florida. Depending on the area of specialization, fields of study are available in civil, electrical, mechanical, and nuclear engineering, and in engineering sciences, computer and information sciences, and materials sciences and engineering.

Under this program, students pay the usual tuition fees, and room and board charges to the University of Florida as if they were in residence; INSA then provides lodging and meals while the student is in residence there. The student pays for the costs of travel, insurance, books, and any personal and incidental expenses. Because the language of instruction is French, applicants must demonstrate proficiency in speaking and writing French, as well as in understanding the spoken language.

For more information, interested students should contact the office of the Associate Dean for Academic Affairs in 312 Weil Hall soon after admission to the College.

COOPERATIVE EDUCATION PROGRAM

In cooperation with the College of Engineering, a number of industries participate in a cooperative program for engineering education. Students in this program alternate terms between study at the University and supervised learning in selected industrial and Government facilities.

Application for the cooperative education program is made through the University Placement Office in the freshman year. Acceptance is based on the academic standing of the student and, of course, the availability of a suitable cooperative assignment. The first and last years of the degree program are normally completed in residence at the University. Students in the cooperative program require at least five years to earn the degree.

Community and junior college students who have been on a cooperative education program may continue their arrangement with the same employer with the approval of the Placement Office.

The terms spent in industry are intended to be educational as well as productive. The student gains experience as

an employee: through the usual employment procedures of interviews, job assignments, training, and so on; by receiving pay commensurate with the assignment; and by receiving assignments of increasing difficulty to parallel the academic advancement.

Upon assignment to an industry, the cooperative student becomes a member of a two-person team. The two team members alternate industrial-assignment periods with each other, so that the cooperating industry has continuity in the program.

Immediately prior to each term to be spent in the industrial assignment, the student is required to register for participation in the Cooperative education program.

Industrial organizations wishing to cooperate in the cooperative education program should contact the Placement Office.

LIFE SCIENCES, BIOMEDICAL ENGINEERING AND PRE-MEDICAL PROGRAMS

There is a growing need in our society for individuals trained in both engineering and the life sciences. Qualified individuals so trained will probably find a diversity of career paths open to them. This preparation particularly suits a candidate for admission to medical school, but it qualifies him or her equally to pursue an engineering career in the specialized fields of bioengineering or environmental engineering, or to continue education with graduate study in biomedical engineering, or the life sciences.

Several departments of the College, after consultation with the College of Medicine, have established special programs in this field. In general, these are of the same length as the conventional curriculum, and were achieved by substituting for groupings of electives, eight credits in organic chemistry and eight in zoology. The student who is interested in these programs should consult the engineering department adviser at the earliest practicable date, since certain departments expect the student to begin his work in these specialized areas early in the undergraduate career.

Environmental Studies Minor Program

A program for a minor (with certificate) in Environmental Studies is available for anyone with a major in the following degree programs of the College of Engineering:

Agricultural Engineering
  Bachelor of Science (Agricultural Engineering)
Chemical Engineering
  Bachelor of Science in Chemical Engineering
Engineering Science, Mechanics and Aerospace Engineering
  Bachelor of Science (Engineering Science)
Industrial and Systems Engineering
  Bachelor of Science in Industrial and Systems Engineering
Mechanical Engineering
  Bachelor of Science in Mechanical Engineering
Nuclear Engineering Sciences
  Bachelor of Science (Nuclear Engineering Sciences)

The program is designed to be of interest to students concerned with environmental issues. Electives can be structured around an environmental theme, giving experience in an area that may expand career opportunities and make education more meaningful.

Students electing to participate in the Environmental Studies Minor Program would need to fulfill all College and Departmental requirements for the degree program in which he or she is enrolled. In addition, electives would be selected in consultation with his or her departmental adviser and the Environmental Studies Adviser (210 Bartram West) such that the requirements for the minor program are satisfied. These electives would consist of a minimum of 14 semester hours of environmental courses, at least one from each of the Biological, Physical and Social Sciences with a minimum of 6 semester hours in one.

The College of Engineering also offers a curriculum leading to the Bachelor of Science in Engineering (Environmental Engineering) administered by the Department of Environmental Engineering Sciences. Students fulfilling the requirements for this degree would generally satisfy all requirements for the Environmental Studies Certificate. These students will be awarded the Certificate if they choose to request one.

Students interested in the minor should check with the Environmental Studies Office in 210 Bartram West and register their intended course of study to insure that the certificate will be received upon graduation.

FLORIDA ENGINEERING AND INDUSTRIAL EXPERIMENT STATION

The Florida Engineering and Industrial Experiment Station has develped a national and international reputation for excellence in research. Its most important contributions are: (1) prosecution of research for the benefit of the State's industries, health, welfare, and public service, and (2) the intangible values offered to students participating in research projects while attaining their education.

Such opportunities bring the students into direct contact with the research specialists who constitute the faculty — the same faculty serve both the Station and the College. Not only do the students assist the professors working on specific research problems, but in many cases they make a direct contribution in meeting the great technological challenges of this era through research. The students thereby profit immeasurably from their association with the engineering faculty engaged in research projects and from the opportunity to use the principles of engineering for the solution of fundamental and applied problems.

All facilities of the College are available for instructional and research purposes. Whenever feasible, students are given an opportunity to observe and participate in research projects of the Station. Students who may benefit by additional laboratory work, and who have the necessary educational experience, may be given special permission to carry on individual research projects. Graduate students may select fundamental problems under investigation in the research projects of the Station for the subject matter of theses that are required for the graduate degrees in engineering.

GRADUATE DEGREES

The College of Engineering offers programs which lead to the following degrees:

Master of Engineering
Master of Science
Engineer
Doctor of Philosophy

The catalog of the Graduate School lists the course offerings, degree requirements, and admission requirements for these degree programs, and gives general information on financial aid.

For information on specific degree programs, interested persons should contact the Graduate Coordinator of the department they are interested in.

College of Fine Arts

GENERAL STATEMENT

The College of Fine Arts provides instruction for students who seek professional careers in the Arts; it offers to other students of the University creative and cultural opportunities; and it performs appropriate related services for the citizens of Florida. The College developed from the School of Architecture established in 1925. In 1975 the previous College of Architecture and Fine Arts was divided to form two colleges, the College of Architecture and the College of Fine Arts.

The College is composed of the Departments of Art, Music and Theatre; the Center for Latin American and Tropical Arts and the University Gallery.

PROGRAMS

The College offers professional curricula leading to undergraduate programs in:

Art (Creative Photography, Painting, Printmaking, Drawing, Sculpture, Art History, Ceramics)
Graphic Design
Art Education
Music
Music Education
Theatre
Dance

At the Graduate level the College offers professional programs in Art, Music, Music Education, Theatre and Dance. Each program requires students to learn the principles relative to the field and to develop skills at the professional level.

Students in the College of Liberal Arts and Sciences may major in art, music and theatre. The College of Fine Arts and the College of Liberal Arts and Sciences cooperate in offering the degree, Bachelor of Arts, with major study in one of the arts. Requirements for this degree are described under the College of Liberal Arts and Sciences.

General Courses: The College offers a number of courses open to all students of the University who wish to broaden their knowledge of the arts.

Public Programs: The College sponsors numerous public lectures, concerts, exhibits, festivals, special conferences, and clinics in which students, faculty and eminent visiting scholars and practitioners participate.

LIBRARY FACILITIES

The University Libraries, the Music Library, and the Architecture Fine Arts Library together provide an important working collection of publications and audio-visual materials for undergraduate and graduate studies. These resources include books, government documents, leading American and foreign periodicals. There is an extensive collection of published and recorded music of all types. Music listening facilities allow convenient use of these materials.

VISUAL RESOURCES CENTER

The College of Fine Arts maintains the Visual Resources Center which houses over 125,000 slides and 15,000 reproductions. This facility is primarily for the use of the faculties in the Colleges of Architecture and Fine Arts; however, it serves students of those two colleges and faculty of other colleges as time and staff permit.

ACADEMIC ADVISEMENT

Students planning to major in any program of study in the College of Fine Arts should consult the department chairman or adviser as soon as possible.

The advisement program of the college offers students the services of faculty members highly qualified in their respective professions. These faculty assist students in the selection of a field of study offered in the college. They also assist students with academic problems and provide coordination and recommendations regarding the selection of employment after graduation.

STUDENT AID

Students interested in part-time employment, assistantships, fellowships, loans, prizes and awards are referred to individual departments and information provided by the Student Financial Aid Office, University of Florida, Gainesville, Florida 32611. Music performance scholarships are available.

TEACHER'S CERTIFICATE

In cooperation with the College of Education, the College of Fine Arts offers programs for teaching Art and Music in the public schools in grades K through 12. These programs are listed in both sections under the College of Education and the College of Fine Arts. For information regarding certification consult the College of Education or the Academic Adviser in Art or Music.

STUDENT WORK

The College reserves the right to retain student work for the purpose of record, exhibition, or instruction.

STUDENT ORGANIZATIONS

Student organizations take an active part in the educational programs of the College. Included in these organizations are the Music Educators National Conference student member Chapter No. 257, Kappa Kappa Psi, Tau Beta Sigma, Phi Mu Alpha Sinfonia, Sigma Alpha Iota, Pi Kappa Lambda, the student chapter of the American Guild of Organists, Guild of Carillonneurs in North America, and the Florida Players. The College encourages students to participate in the activities of professional groups and societies.

GRADUATE DEGREES

The College offers the degrees Master of Fine Arts with majors in Art, Music, Theatre and Dance, and in cooperation with the College of Education, the Master in Education with a major in Music Education. To meet the needs and goals of each student, graduate programs are prepared individually in consultation with a designated member of the Graduate Faculty of the College.

Each department offers majors leading to the degree Master of Fine Arts. This degree requires two years of study. Applicants requesting admission to any of the programs should have an earned baccalaureate degree in the same or closely related field.

Art: The degree Master of Fine Arts, major in Art provides a concentration of study in studio or history. This degree prepares students for professional entry in the fields of the visual arts, and/or employment teaching at the college level.

Music: The degree Master of Fine Arts, major in Music is designed primarily for those who wish to prepare themselves for careers as teachers in colleges and universities, performers, music historians, music critics, church musicians, composers and conductors. Recipients of this degree will be prepared to continue graduate study toward a doctoral degree in the various areas of music cited above.

The Department of Music cooperates with the College of Education in offering courses leading to the following degrees: Master of Education in Music Education (nonthesis

degree); Master of Arts in Education in Music Education (thesis degree); Specialist in Education: Doctor of Education in college music teaching (emphasis in music education); Doctor of Philosophy in college music teaching (emphases in music history, literature and criticism, music theory and composition, performance practices, and music education).

During the week of the student's first registration, he/she must take placement examinations in applied music, in music history and literature, in music theory, and in music education for the music education major. Music education majors must satisfy requirements for music teaching certification in Florida before the degree is awarded.

Theatre: The degree of Master of Fine Arts, major in Theatre is designed primarily for those interested in production oriented theatrical careers. The program provides advanced training in the craft skills essential to the theatre artist, and their subsequent application in public and studio production. Specialization is offered in Directing-Acting, Costume, Design-Technical, and Dance.

For further information see the Graduate School catalog.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Fine Arts encourage applications from qualified students from all cultural, racial, religious and ethnic groups. In addition to the admission requirements established by the university, the college employs the following guidelines.

Because of the many applicants and limitations in faculty and space, the college cannot accept all eligible applicants. Therefore, eligible applicants will be considered for admission to the College of Fine Arts within established quotas. A student's total record, including educational objective, pattern of courses completed, quality of academic record, successful audition as appropriate and test data will be considered in evaluating applicants. Applicants for Art Education and Music Education programs are required to present SAT or ACT test scores prior to admission to these programs. Students entering these programs will be required to take the Basic Skills Examination the first term of enrollment. Priority in admission will be given to those applicants whose potential indicates the greatest likelihood of success in the program requested.

University of Florida Students Classified UF: To be eligible for admission to the College of Fine Arts students are expected to have: 1) a minimum average of "C" or higher in the courses required by the appropriate curriculum specified for Freshman and Sophomore years; and 2) passed all required preprofessional courses within those two years with a minimum grade average of "C". Admission to programs restricting enrollment because of space limitations may require that the student earn higher than the 2.0 (C) average minimum.

On occasion, departments will recommend that certain students be admitted to the college prior to the completion of all freshman and sophomore requirements. Students should consult departmental academic advisers regarding the appropriate time to initiate a change of college request.

Minimum grades required in certain courses and other special requirements (portfolio review may be required in some areas) for admission to various curricula in the College of Fine Arts should be obtained from the Department or Dean's Office.

Transfer Students: To be eligible for admission to the College of Fine Arts a transfer student must satisfy the minimum requirements for admission as specified in the ADMISSIONS section of this catalog. The applicant must also satisfy the following specific requirements for admission to the College of Fine Arts:

A. Transfers from four-year colleges.

Students attending four-year colleges should take courses similar to the ones in the appropriate program as outlined in this catalog.

B. Community College Transfers to Departments within the College.

1. *Curricula in Art:* Where possible the community college program should include: two basic design courses (which include color theory), two free-hand drawing courses, and a year of art history. Courses not available at the community college will be taken after transfer to the University.

2. *Curricula In Music:* The community college program should include two years of music theory, including ear training, sight singing and keyboard harmony; two years of applied music major study; and two years of ensemble. The primary criterion for admission to any music major program is proficiency in musical performance. Students are admitted to the program following completion of a satisfactory in-person or tape-recorded audition, and completion of theory and piano proficiency placement tests.

3. *Curriculum in Theatre:* If available, theatre appreciation, oral interpretation, voice and articulation, acting, theatre practice, stage make-up and stage movement should be taken at the community college.

Provisional Admission: The professional programs of the College demand that preprofessional course-work begin with the Freshman year. Realizing that some schools may not offer all such courses, the College occasionally provides an opportunity for admissable students to remove these deficiencies. Qualified transfer students, indicating potential, but not having completed all preprofessional prerequisites, may be admitted provisionally based upon space available. Due to limitations in space and faculty all qualified students may not be admissable. Students admitted provisionally will register for the courses necessary to eliminate deficiencies in the shortest time possible. Until these deficiencies are removed they will be required to maintain a "C" (2.0) average to be eligible for continued registration and must follow a specified program.

MAXIMUM AND MINIMUM REGISTRATION

Around fifteen semester hours in any regular semester shall be considered a normal load. A student may be permitted to register for more than eighteen hours when, in the opinion of his adviser, the quality of his record justifies this. The minimum load for a full-time student in the University during a regular term is 12 hours. At the time of registration a student, with the approval of the Dean or Department adviser, may register for less than twelve hours.

NORMAL ACADEMIC PROGRESS

Students maintain normal academic progress by earning a minimum grade point of 2.0 (C) average for all work attempted while classified in the College. In addition, students are required to take courses in a sequence as specified by the department chairman or adviser. A student may be excluded from a program of study in the College if he/she fails or refuses to maintain normal academic progress.

DEAN'S HONOR LIST

Undergraduate students who demonstrate excellence in their academic work by completing a minimum of 12 hours credit in a term and achieving a grade point average of 3.5 or better will earn a position on the Dean's Honor List. Students whose term averages are below 3.5 due to grades of I, X, etc. are not eligible.

GRADUATION REQUIREMENTS

To be eligible for graduation, the student must earn a minimum grade point average of 2.0 (C) for all work attempted

in the appropriate curriculum while classified in the College. Courses taken while enrolled in another College may not apply toward the calculation of the average. Specific grade requirements for various curricula may be obtained from the department or Dean's Office.

Minimum credits are required for the following degrees:

Bachelor of Arts in Art	120
(Art Education)	122
Bachelor of Design	130
Bachelor of Fine Arts	
(Art)	130
(Theatre)	128
Bachelor of Design in Art Education	130
Bachelor of Music	131
(Theory and Composition)	128
Bachelor of Music Education	131

Students planning to enter the Graduate School should maintain a 3.0 (B) average in Upper Division work.

GRADUATION WITH HONORS AND HIGH HONORS

The faculty will consider recommending students for graduation with HONORS or HIGH HONORS on the following criteria: (a) grade point average (b) distribution and quality of subject matter studied, (c) faculty evaluation, and (d) other pertinent qualities.

The student will be considered for HONORS upon earning a minimum 3.2 academic average or for HIGH HONORS upon earning a 3.5 academic average. The average will be calculated on all work attempted while the student is classified 3FA and above. Transfer credits will be excluded from the average: HONORS or HIGH HONORS may be awarded upon a minimum of 48 semester hour credits taken at the University of Florida.

I. CURRICULA IN ART

Westin, R.H., *Chairman and Adviser*; Murray, E.D., *Assistant Adviser*

The Department of Art offers undergraduate majors in the College of Fine Arts leading to degrees of Bachelor of Arts in Art, Bachelor of Fine Arts, Bachelor of Design and Bachelor of Design in Art Education. Junior and senior course requirements in the curricula are given below. Admission to this department is selective. A portfolio of photographic slides or prints of recent art work including drawing and design projects should be sent directly to the Art Department as part of the application. A return mailer with postage is necessary. For further information concerning these curricula see the Chairman of the Department of Art or the departmental Assistant Adviser.

In addition, the Department of Art in cooperation with the College of Liberal Arts and Sciences offers a major in art leading to the degree Bachelor of Arts. Requirements for this degree are given in the listing of the College of Liberal Arts and Sciences.

The curricula in the College of Fine Arts are intended for students who plan to enter professional careers in fine arts or design, to teach art in public schools or in universities and colleges or to enter graduate study.

The major in art in the College of Liberal Arts and Sciences should be chosen by those students whose interest is in a liberal education with emphasis upon the visual arts.

1. Curricula. Leading to the Degree of Bachelor of Arts in Art.

The Bachelor of Arts in Art degree offers programs in the following areas: (a) Studio — creative photography, drawing, painting, printmaking and sculpture, (b) Art History, (c) Ceramics, (d) Graphic Design, and (e) Art Education. This degree program offers the student all the content advantages of the department's professional B.F.A./B.D. programs while reducing the actual time commitment by one semester or 16 hours. (Also see (2) Curricula in Fine Arts (B.F.A.), (3) Curricula in Graphic Design (B.D.), and (4) Curricula in Art Education, (B.D.).

[a] B.A.A. in Studio

JUNIOR YEAR

Fall Semester

	Credits
ART Specialization: 1st level	4
ARH 4453 Mid 20th Century Art	4
**ART 3310C Intermediate Drawing I	4
*General Elective	3
	15

Spring Semester

ART Specialization: 2nd level	4
Art History	4
**Art Elective	4
	12
Total	27

SENIOR YEAR

Fall Semester

ART Specialization: Advanced	4
Art History	4
**Art Elective	4
*General or Art Elective	4
	16

Spring Semester

ART Specialization: Advanced	4
**Art Elective	4
*General or Art Elective	4
	12
Total	28
Total Minimum Credits	120

*Electives must include a minimum of seven credits outside the Department of Art in courses of a non-studio nature. The studio major should consist of four courses (16 hours) in a single area, e.g., creative photography, drawing, painting, printmaking, sculpture, etc.

**Twelve credits of art electives will be chosen from: ART 3311C, 3110C, 3510C, 3600C, 3400C, 3701C. For Drawing majors ART 3310C-3311C will be counted as part of their studio major and they will substitute eight credits (to be selected from the classes listed above) to make up the difference.

(b) B.A.A. in Art History

JUNIOR YEAR

Fall Semester

	Credits
Art History	8
Foreign language	4
	12

Spring Semester

Art History	8
Foreign language	3
History or Philosophy	4
	15
Total	27

SENIOR YEAR

Fall Semester

Art History	8
Foreign language	3
History or Philosophy	4
	15

Spring Semester

Art History	4
Foreign language	3
Electives	6
	13
Total	28
Total Minimum Credits	120

[c] B.A.A. in Ceramics

JUNIOR YEAR
Fall Semester

	Credits
ART 3110C Ceramics 1	4
ARH 4453 Mid 20th Century Art	4
ART 3701C Sculpture 1	4
*General Electives	4
	16

Spring Semester

ART 3111C Ceramics 2	4
Art History	4
**Art elective	4
	12
Total	28

SENIOR YEAR
Fall Semester

ART 4113C Advanced Ceramics	4
Art History	4
**Art elective	4
*General elective	3
	15

Spring Semester

ART 4113C Advanced Ceramics	4
**Art Elective	4
*Art or General elective	4
	12
Total	27
Total Minimum Credits	120

*Electives must include a minimum of seven credits outside the Department of Art in courses of a non-studio nature.
**Twelve credits of art electives will be chosen from: ART 3310C, 3400C, 3510C, 3600C.

[d] B.A.A. in Graphic Arts
For admission criteria see description under Bachelor of Design program.

JUNIOR YEAR
Fall Semester

	Credits
ART 3233C Layout 1	4
ART 3310C Intermediate Drawing	4
**ART 3280C Lettering	4
ARH 4453 Mid 20th Century Art	4
	16

Spring Semester

ART 3234C Layout 2	4
ART 3235C Projects in Graphic Design	4
**ART 3600C Photography	4
	12
Total	28

SENIOR YEAR
Fall Semester

	Credits
ART 4239 Projects in Graphic Design	4
Art elective	4
Art History	4
*General elective	3
	15

Spring Semester

ART 4241 Projects in Graphic Design	4
*General Elective	4
Art History	4
	12
Total	27
Total Minimum Credits	120

*Electives must include a minimum of seven credits outside the Department of Art in courses of a non-studio nature.
**ART 3280C and/or ART 3600C should, if possible, be completed in the Sophomore year.

[e] B.A.A. in Art Education

The curriculum in Art Education is designed for students who plan to teach art in the public schools. Students completing this curriculum, which is offered in cooperation with the College of Education, are qualified for certification as teachers of art in the state of Florida. Students are urged to become familiar with the requirements as listed under the College of Education dealing with admission to the Advanced Professional Sequence.

JUNIOR YEAR

	Credits
*Art Major	8
**Art Electives	4
EDF 3110 Human Growth and Development	3
EDF 3514, 3604, 4S42, or 4710	3
ARE 4242 Prof. Studies in Art Education	3
ARE 4243 Prof. Studies in Art Education	3
ARH 4453 Mid-20th Century Art	4
Total	28

SENIOR YEAR

ARE 4244 Prof. Studies in Art Education	4
EDE 4203 Elementary School Today	3
ESE 4011 Secondary School Today	3
EDE 4943 The Practicum; K-12	11
**Art Electives	8
Total	29
Total Minimum Credits	122

*Art major must include the advanced courses necessary to complete state certification requirements and must include a minimum of two closely related art department studio courses in a single advanced area.
**For State Certification art electives must include: ART 3110C, 3400C, 3701C. In case of overlap with area of concentration next class in sequence will be taken.

2. Curricula leading to the Degree of Bachelor of Fine Arts.

The Bachelor of Fine Arts degree offers programs in the following areas: (a) Studio — creative photography, drawing, painting, printmaking and sculpture, (b) Art History, and (c) Ceramics. Students who plan to enter a program of graduate study in art after receiving the baccalaureate degree are advised to register in one of these curricula. Upon completion of graduate work students entering these fields are qualified for positions in museums and art galleries, as instructors of art at the college and university level, or for independent activity as creative artists.

JUNIOR YEAR
Fall Semester

	Credits
ART Specialization: 1st level	4
ARH 4453 Mid 20th Century Art	4
ART 3310C Intermediate Drawing 1	4
*General elective	4
	16

Spring Semester

ART Specialization: 2nd level	4
Art History	4
**Art elective	4
*General elective	5
	17
Total	33

SENIOR YEAR
Fall Semester

ART Specialization: Advanced	6
Art History	4
**Art elective	8
	18

Spring Semester

ART Specialization: Advanced	6
Art History	4
**Art elective	4
	14
Total	32
Total Minimum Credits	130

*Electives must include a minimum of nine credits outside the Department of Art in courses of a non-studio nature.
**Twelve credits will be chosen from: ART 3110C, 3510C, 3600C, 3400C, 3701C. Four credits will be chosen from: ART 3111C, 3311C, 3401C, 3520C, 3601C, 3702C. For Drawing majors ART 3310C-3311C will be counted as part of their studio major and they will substitute eight credits (to be selected from the classes listed above) to make up the difference.

[b] B.F.A. in Art History

JUNIOR YEAR

Fall Semester

	Credits
Art History	8
Foreign language	4
History or Philosophy	4
	16

Spring Semester

Art History	8
Foreign language	3
History or Philosophy	4
**Art Elective	4
	19
Total	35

SENIOR YEAR

Fall Semester

ARH 3800 Criticism of Art	4
Art History	4
Foreign language	3
**Art elective	4
	15

Spring Semester

Art History	4
*General elective	4
Foreign language	3
**Art elective	4
	15
Total	30
Total Minimum Credits	130

*Electives must include a minimum of four credits outside the Department of Art in courses of a non-studio nature.
**Twelve credits of art electives are required from: ART 3110C, 3510C, 3600C, 3400C, 3701C, 3310C.

[c] B.F.A. in Ceramics

JUNIOR YEAR

Fall Semester

	Credits
ART 3110C Ceramics 1	4
ARH 4453 Mid 20th Century Art	4
ART 3701C Sculpture 1	4
*General Elective	4
	16

Spring Semester

ART 3111C Ceramics 2	4
Art History	4
ART 3702C Sculpture 2	4
*General Elective	4
	16
Total	32

SENIOR YEAR

Fall Semester

ART 4113C Advanced Ceramics	6
Art History	4
**Art Elective	4
*General or Art elective	3
	17

Spring Semester

ART 4113C Advanced Ceramics	6
Art History	4
**Art Elective	4
*General or Art elective	2
	16
Total	33
Total Minimum Credits	130

*Electives must include a minimum of nine credits outside the Department of Art in courses of a non-studio nature. EMA 3040L and 3050 are recommended electives.
**Twenty credits of art electives are required. ART 3701C and 3702C (Sculpture 1 & 2) are required. The remaining twelve credits will be chosen from: ART 3310C, 3510C, 3600C, 3400C. Four of these credits may be from: ART 3311C, 3401C, 3520C, 3601C.

3. Curriculum in Graphic Design leading to the degree of Bachelor of Design.

The curriculum in Graphic Design is a professional program. Included in the curriculum are a series of courses in design, drawing and painting, the history and theory of art and, in the professional field, lettering, layout, graphic design, photography and illustration. Students receiving the Bachelor of Design degree are qualified for professional careers in graphic design and related fields. Admission to this program is selective. A portfolio of photographic slides or prints of recent art work including drawing and design projects should be sent directly to the Art Department as part of the application. A return mailer with postage is necessary. This two-year program's curriculum is sequential and applications are accepted only for the Fall semester. Deadline for application is April 1st for entrance in the Fall semester.

JUNIOR YEAR

Fall Semester

	Credits
ART 3233C Layout 1	4
ART 3310C Intermediate Drawing	4
**ART 3280C Lettering	4
ARH 4453 Mid-20th Century Art	4
	16

Spring Semester

ART 3234C Layout 2	4
ART 3235C Projects in Graphic Design	4
**ART 3600C Photography	4
Art History	4
	16
Total	32

SENIOR YEAR

Fall Semester

ART 4239C Projects in Graphic Design	6
Art elective	4
Art History	4
*General elective	3
	17

Spring Semester

ART 4241C Projects in Graphic Design	6
*General electives	6
Art History	4
	16
Total	33
Total Minimum Credits	130

*Electives must include a minimum of nine credits outside the Department of Art in courses of a non-studio nature.
**ART 3280C and ART 3600C are required and should, if possible, be completed in the Sophomore year.

4. Curriculum in Art Education (College of Fine Arts—College of Education), leading to the Degree of Bachelor of Design in Art Education.

The curriculum in Art Education is designed for students who plan to teach art in the public schools. Students completing this curriculum, which is offered in cooperation with the College of Education, are qualified for certification as teachers of art in the State of Florida. Students are urged to become familiar with the requirements as listed under the College of Education dealing with admission to the Advanced Professional Sequence.

JUNIOR YEAR

	Credits
*Art major	8
Art electives	12
EDF 3110 Human Growth and Development	3
EDF 3514, 3604, 4542, or 4710	3
ARE 4242 Prof. Studies in Art Education	3
ARE 4243 Prof. Studies in Art Education	3
Total	32

SENIOR YEAR

ARE 4244 Prof. Studies in Art Education	4
*Art Major	4
ARH 4453 Mid-20th Century Art	4
EDE 4203 Elementary School Today	3
ESE 4011 The Secondary School Today	3
Art Electives	4
EDE 4943 The Practicum; K-12	11
Total	33
Total Minimum Credits	130

*Art major must include the advanced courses necessary to complete state certification requirements and must include a minimum of three closely related Art Department studio courses in a single advanced area.
**For State Certification art electives must include: ART 3110C, ART 3400C, ART 3701C, ART 3510C. In case of overlap with area of concentration next class in sequence will be taken.

II. CURRICULA IN MUSIC

Leading to the Degrees Bachelor of Music and Bachelor of Music Education.

Hale, J.P., *Adviser* (B.M.E.), Jaeger, I.C., *Assistant Adviser* (B.M.)

NOTE: Music majors must be admitted to the music major program by the Department of Music. Prospective majors should see the Department of Music Chairman as early as possible in their careers.

Requirements for the Degree: To qualify for a degree in music, a student must complete the courses listed below to the satisfaction of the music faculty. The faculty reserves the right to require a minimum grade of "C" in any course required for graduation.

All music majors are required to attend fifteen programs each semester of the normal academic year. Music majors must participate in the Choral Union during the spring semester each year.

The successful completion of a piano profiency is required for all music majors. If necessary, students will take Piano Skills until the requirement is met.

A diagnostic theory examination is required of all students entering the Upper Division.

1. Curriculum for Instrumental Performance Major. Bachelor of Music Degree.

JUNIOR YEAR

Music Performance Area	Credits
Performance major	6
Full Recital is required	
Performance Minor	6
Ensemble	2
Courses	
MUH 3211, 3212 History of Music	6
MUT 3611 Form and Analysis	3
MUT 4411 or 4421 Counterpoint	3
Two courses from Physical Sciences, Biological Sciences, PHS 4805	6
Elective	2
Total	34

SENIOR YEAR

Music Performance Area	Credits
Performance major	6
Full Recital is required	
Ensemble	2
Courses	
MUT 3321 Instrumentation and Arranging	3
MUG 4101 Conducting	2
MUS 4905 Projects and Problems	3
Biological or Physical Science	3
Electives	14
Total	33
Total Minimum Credits	131

2. Curriculum for Voice Performance Major. Bachelor of Music Degree.

JUNIOR YEAR

Music Performance Area	Credits
Performance major	6
Full Recital is required	
Ensemble	2
Piano (1 year beyond MVK) minimum credits	6
Courses	
MUH 3211, 3212 History of Music	6
Foreign Language	10
Physical Sciences or PHS 4805	3
Biological Science	3
Total	36

SENIOR YEAR

Music Performance Area	Credits
Performance major	6
Full Recital is required	
Ensemble	2
Courses	
MUT 3611 Form and Analysis	3
MUT 4411 or 4421 Counterpoint	3
MUG 4101 Conducting	2
MUS 4905 Projects and Problems	3
Biological or Physical Science	3
Electives	9
Total	31
Total minimum credits	131

3. Curriculum in Theory and Composition. Bachelor of Music Degree.

Theory Track

JUNIOR YEAR

Music Performance Area	Credits
Performance Principal, Including Recital	6
Ensemble	2
Courses	
MUT 4421, 4111 Counterpoint	6
MUT 3321, 3322 Instrumentation and Arranging	6
MUT 3611, 3612 Form and Analysis	6
Biological Science	3
Elective	2
Total	31

SENIOR YEAR

Music Performance Area	Credits
Ensemble	2

Courses	
MUH 3211, 3212 History of Music	6
MUT 4615*, 4626** Advanced Analysis	6
MUS 4905 Projects and Problems (analysis or Instr. and Arr.)	3
MUT 4601 Score Reading	2
Physical Science	3
Biological or Physical Science	3
Electives	6
Total	31

*Analysis of Early Music
**Advanced Analytical Techniques

Total minimum credits 128

Composition Track

JUNIOR YEAR

Music Performance Area	*Credits*
Performance Principal, Including Recital	6
Ensemble	2
Courses	
MUC 3201, 3202 Composition	6
MUT 4411, 4421 Counterpoint	6
MUT 3611, 3612 Form and Analysis	6
Elective	2
Biological Science	3
Total	31

SENIOR YEAR

Music Performance Area	*Credits*
Ensemble	2
Courses	
MUC 4204 Composition	3
MUH 3211, 3212 History of Music	6
MUT 3321, 3322 Instrumentation and Arranging	6
MUS 4905 Projects and Problems (composition)	3
MUT 4601 Score Reading	2
MUC 4301 Introduction to Electronic Music	3
Physical Science	3
Biological or Physical Science	3
Total	31
Total minimum credits	128

4. Curriculum in History and Literature. Bachelor of Music Degree.

JUNIOR YEAR

Music Performance Area	*Credits*
Performance Principal, Including Recital	6
Ensemble	2
Courses	
MUH 3211, 3212 History of Music	6
MUT 3611 Form and Analysis (1)	3
MUH 3541 Latin American Music (or) MUL 4334 Renaissance Literature	3
Foreign Language	10
Two courses from Physical Sciences, Biological Sciences, or PHS 4805	6
Total	36

SENIOR YEAR

Music Performance Area	*Credits*
Ensemble	2
Courses	
Two courses from MUL 3341, 3351, 4361, 4371	6
Foreign Language	5
MUS 4905 Project and Problems (Senior Project)	3
Elective	2
Biological or Physical Science	3
Electives	10
Total	31
Total minimum credits	131

5. Curriculum in Church Music. Bachelor of Music Degree.

JUNIOR YEAR

Music Performance Area	*Credits*
Performance Principal	6
Performance minor	3
Ensemble	2
Courses	
MUH 3211, 3212 History of Music	6
MUG 4101 Conducting	2
Foreign Language	10
Elective	2
Physical Science	3
Total	34

SENIOR YEAR

Music Performance Area	*Credits*
Performance Principal Senior Recital is required	6
Performance minor	3
Ensemble	2
Courses	
MUR 3401 Organ Design and Literature	3
MUR 4801 Music in Worship	3
MUT 4411 Counterpoint	3
MUG 4201 Choral Conducting	2
Biological Science	3
Physical Science	3
Electives	5
Total	33
Total minimum credits	131

Ordinarily the church music major will earn 24 credits (four years of study) in organ or voice, with 6 credits in the other area of organ or voice as the performance minor.

6. Curriculum in Music Education. Bachelor of Music Education Degree.

The purpose of this curriculum is to prepare students to become musicians and music teachers both in private life and in the public schools. It is offered in cooperation with the College of Education and is based on a broad foundation in music. It includes work in theory of music, music literature, music education, music performance, and ensemble.

This is the program recommended for, and which best meets the needs of, the majority of music majors. It provides teaching certification, kindergarten through 12th grade, in Florida and in most other states through the National Council for the Accreditation of Teacher Education.

Piano Skills MVK 2111 must be taken each semester until the piano proficiency examination is passed; requirement must be met before application for The Advanced Professional Sequence in Education.

The grade of C or better is required in all Music Education courses. The teaching of reading requirement is met in the courses MUE 3113 and 3030.

A Mid-point Guidance Conference must be completed no later than the end of the junior year.

A minimum grade point average of 2.5 is required of all students making application for student teaching.

Basic Skills Assessment
All students will take a basic skill assessment examination during their first semester in the college. A student must have a successful score on all sections of the basic skills assessment examination prior to admission to student teaching.

Admission
As a prerequisite for admission into the music education program, a student shall receive a composite score of seventeen (17) on the American College Test or a composite score of eight hundred thirty-five (835) on the Scholastic Aptitude Test. Minimum scores listed.

Teacher Certification
An applicant for initial regular certification in Florida must receive a passing score on a teacher certification examina-

tion administered by the State Department of Education prior to regular certification.

JUNIOR YEAR

Music Performance Area	Credits
Performance Principal, Incl. Recital	6
MUE 2440, 2450, 2460, 2470 Instrumental Skills	4
Ensemble	1
Courses	
MUH 3211, 3212 History of Music	6
MUE 3113, 3030 Music Education	8
MUG 4101 General Conducting	2
EDF 3514 or 3604 or 4542 Foundations of Education	3
Biological Science	3
Physical Science	3
Total	36

SENIOR YEAR

Music Performance Area	Credits
**MUE 2450 Woodwind Skills	1
**MUE 2460 Brass Skills	1
MUG 4102 or 4201 Instrumental or Choral Conducting	2
Courses	
MUE 4152 Administration of Music Education	2
EDF 3110 or 3122 or 3135 Foundations of Education	3
*ESE 4203 Elementary School Today	3
*ESE 4011 Secondary School Today	3
EDE 4943 or ESE 4943 Student Teaching	10
Elective: ORI 2001 Oral Performance of Literature	3
Biological or Physical Science	3
Total	31
Total minimum credits	131

**Choral (emphasis) Majors will take General Music in lieu of Brass Skills and Woodwind Skills.

*Advanced Professional Sequence in Education.

The degree Bachelor of Arts in music is offered through the College of Arts and Sciences with the cooperation of the Department of Music. See the College of Arts and Sciences section of the catalog for the degree.

III. CURRICULUM IN THEATRE

Leading to the Degree of Bachelor of Fine Arts in Theatre. Hooks, E.J., *Chairman and Adviser.*

The B.F.A. program is designed to provide a general comprehension of the theatre as a composite art including studies in theory and dramatic literature plus introductory work in several craft areas essential to dramatic production. The latter are included to provide for comprehension of the complex nature of the art and to insure proper integration of its several craft specialties. Areas of concentration are (1) Performance and Stage Direction (2) Scene Design and Lighting, and (3) Costume, and (4) Dance.

In addition to the BFA degree, the Department of Theatre offers a major in Theatre in the College of Liberal Arts and Sciences leading to the degree of Bachelor of Arts; also in cooperation with the College of Education and Liberal Arts and Sciences the Department of Theatre offers a program in Language Arts Specialty with theatre emphasis, leading to the degree Bachelor of Arts Education. For all programs in Theatre, students should consult the Department of Theatre's academic adviser.

BFA—JUNIOR YEAR

I. PERFORMANCE:	Credits
TPA 3200 Stagecraft 1	3
TPP 3650 Play Analysis	3
ENL 4136 Shakespeare	3
TPA 4230 Costume History 1	3
TPA 4231 Costume History 2	3
ORI 2002 Oral Performance 2	3
TPP 3111 Acting 2	3
TPP 3112 Acting 3	3
TPP 3511 Musical Theatre and Movement 2	3
CLT 3291 Greek Tragedy	3
DAN (Dance courses determined by experience)	3
Elective	3
	36

II. COSTUME:	
TPA 3200 Stagecraft 1	3
TPP 3650 Play Analysis	3
ENL 4136 Shakespeare	3
TPA 4230 Costume History 1	3
TPA 4231 Costume History 2	3
ARC 1115C Basic Drawing	3
ARH 2050 Art History 1	4
ARH 2051 Art History 2	4
Elective	4
TPA 4060 Scene Design 1	3
	33

III. DESIGN-TECH:	
TPA 3200 Stagecraft 1	3
TPP 3650 Play Analysis	3
ENL 4136 Shakespeare	3
TPA 4230 Costume History 1	3
TPA 4231 Costume History 2	3
TPA 3010 Stagecraft 2	3
TPA 3220 Technical Theatre Principals	3
TPA 4024 Stage Lighting	3
TPA 4060 Scene Design	3
ART 1300 Freehand Drawing	3
ARC 1155C Basic Drawing	3
Elective	3
	36

IV. DANCE	
DAA 3102 Modern Dance 3	6
TPA 3200 Stagecraft 1	3
TPP 3650 Play Analysis	3
TPA 4230 Costume History 1	3
MUL 2011 Introduction to Music	3
DAA 3700 Dance Composition	3
DAN 3500 Dance Production	3
TPA 3290L Dance Composition 2	3
DAE 2320 Modern Dance Teaching	3
PET 3320 Applied Human Anatomy	3
	33

BFA-SENIOR YEAR

I. PERFORMANCE	
THE 4110 Theatre History 1	3
THE 4111 Theatre History 2	3
TPP 3310 Directing 1	3
TPP 3311 Directing 2	3
**THE 4945 Repertory Theatre	9
TPA 3010 Stage Craft 2	3
Elective (Voice if possible)	3
DAN (Dance classes determined by experience)	3
TPP 3512 Musical Theatre and Movement 3	3
	33

II. COSTUME:	
THE 4110 Theatre History 1	3
THE 4111 Theatre History 2	3
THE 4905 Independent Study	3
TPP 3310 Directing 1	3
TPP 3311 Directing 2	3
**THE 4945 Repertory Theatre	9
TPA 4047 Costume Design	3
THE 4905 Indiv. Study (Costume Mgt.)	3
TPA 4284 Scene Painting	3
TPA 3290L Theatre Practice	3
	36

III. DESIGN-TECH:	
THE 4110 Theatre History 1	3
THE 4111 Theatre History 2	3
TPP 3310 Directing 1	3

TPP 3311 Directing 2	3
**THE 4945 Repertory Theatre	9
TPA 4063 Scenic Design 2	3
TPA 4100 Theatre Architecture & Decor	3
TPA 3270 Equipment Utilization	3
TPA 4284 Scene Painting	3
	33

IV. DANCE

DAA 4103 Modern Dance 4	6
TPP 3310 Directing 1	3
**THE 4945 Repertory Theatre	9
DAN 4103 Seminar in Dance History	3
DAN 3500 Dance Production	3
THE 4905 Independent Study (Dance Composition 3)	3
PET 3350 Applied Human Physiology	3
THE 4110 Theatre History 1	3
MUL 2111 Music Styles	3
	36
Upper Division Total	69
Total Minimum Degree Credits	128

**THE 4945 Repertory Theatre must be taken in the Summer semester following the junior or senior year. No additional courses may be taken due to time requirements of SRT (Summer Repertory Theatre).

School of Forest Resources and Conservation

FORESTRY
WILDLIFE ECOLOGY
RESOURCE CONSERVATION

School of Forest Resources and Conservation

College of Agriculture
Institute of Food and Agricultural Sciences

GENERAL STATEMENT

The School of Forest Resources and Conservation is an upper division unit of the College of Agriculture, University of Florida. The primary objective of the School is to provide professional education in the areas of forestry, wildlife, range and resource conservation.

All work offered in the School meets the highest requirements of professional education. The School is accredited by the Society of American Foresters. Graduates can qualify for membership in recognized professional organizations, such as Society of American Foresters, Society for Range Management and The Wildlife Society, and, through the selection of appropriate courses, can qualify for listing on Federal Civil Service employment registers.

Programs of Study

All programs of the School are designed to provide students with an education of sufficient breadth to qualify them for advancement to positions of responsibility and leadership. In addition to the arts, humanities and social studies offered in the University, students receive thorough training in the basic sciences and in essential aspects of their chosen field.

Graduates of all programs will receive the degree of Bachelor of Science in Forest Resources and Conservation (BSFRC). These programs are designed for students with interests in the management and conservation of forest, range, and wildlife resources. All students must follow a core sequence designed to provide them with a thorough understanding of natural ecosystems and the impacts imposed upon such systems by the varied and multiple needs they serve. Also stressed are the interrelationships between the various professional disciplines needed for effective control, management, and conservation of natural resources.

In conjunction with the core, students follow a program of study designed to provide a professional education in one of the following majors:

FORESTRY — Management of forest lands for the production of fiber, maintenance of wildlife habitat, protection of watersheds, grazing of livestock, and enhancement of recreational opportunities.

WILDLIFE ECOLOGY — Application of basic principles governing the abundance, distribution and ecology of all forms of wild animals (including fish), both game and nongame species. A broad ecological approach to ecosystem management is stressed.

RESOURCE CONSERVATION — Development of a broad or specific program in natural resource conservation. Programs are tailored to individual student needs, in consultation with an assigned advisor.

Satisfactory completion of the prescribed courses in one or more of the majors, as certified by the assigned faculty advisor, will be noted on the student's transcript.

FACILITIES FOR INSTRUCTION AND RESEARCH

The School of Forest Resources and Conservation is headquartered in Newins-Ziegler Hall, which was completed in 1976. This modern and attractive structure contains two general classrooms, four teaching laboratories, two conference rooms, carrels for graduate assistants and 22 specialized and 14 common use research laboratories. It also provides office space for School faculty.

Varied facilities for carrying out its instructional and research objectives are available to the School. Several University-owned forests and range lands are available for field laboratories, demonstration and research work. The Welaka Research and Education Center, consisting of 1,000 hectares (ha) of diversified forest lands, is located in Putnam County, Florida. The Austin Cary Memorial Demonstration Forest, consisting of 843-ha of flatwoods forest land located 13 km northeast of Gainesville, is used as a field laboratory and demonstration and experimental forest where the student receives practical field experience. The School has a small sawmill located on the Austin Cary Forest. Other resource facilities located at this site include a fisheries laboratory and experimental fish ponds. The 2400-ha Katharine Ordway Preserve, a gift to the University of Florida, and the adjacent 1200-ha land leased from the Nature Conservancy provide a valuable set of natural ecosystems for research and education. This area is administered by the School and the Florida State Museum. The 170-ha Chinsegut Hill Forest in Hernando County provides a setting for research in the conservation and perpetuation of scenic stands of old-growth pine timber. Diversified land-management operations are studied on the Beef Research Unit and the adjacent Mize Tract, which is being managed primarily for woodland grazing of livestock. Range operations research and instruction are also conducted at the 730-ha Agricultural Research Center at Ona, Florida. The Anhinga Roost Property, consisting of some 200-ha of shoreline and lake bottom of nearby Newnan's Lake, is available for research and instruction in freshwater fisheries and wildlife ecology.

Woodlands holdings, in excess of 100,000-ha, of five large pulp and paper companies and several smaller private forestry operations located within a radius of 32 km of the campus are available for laboratory use. Two of the three National Forests of the state are less than 20 km from the campus, and Paynes Prairie State Park, a unique 3200-ha diversified marsh, prairie and hammock area, is within ten minutes travel time of the campus. Several other city, county and state parks and recreational areas, including unique natural areas such as the Devil's Millhopper and the San Felasco Hammock, are nearby and available for research and study by students interested in forest recreation, wildlife ecology and natural resource conservation.

There are several forest products industries located in the vicinity of Gainesville: a wood-preservation plant, plywood plant, pole and cross-tie yard, pallet mill, box and crate factory, and several sawmills. Wildlife management areas, numerous lakes and streams with varied management problems, ranches, and private and commercial forest holdings are located in the vicinity. Visits to these supplement the student's training in resource management and conservation.

Computer terminals connected to the Northeast Regional Data Center and other modern computational equipment are available in the School to students enrolled in its programs. Also, mapping, aerial photo interpretation, drafting and analytical equipment are available.

Resource publications are housed primarily in Hume Library, a unit of the University Library System.

The Goodhill Foundation, which provided the Katharine Ordway Preserve also made possible along with the State's Eminent Scholar's Program, an endowed chair for Ecosystem Conservation to be administered by the School and the Florida State Museum.

REQUIREMENTS FOR ADMISSION

General: The University of Florida and the School of Forest Resources and Conservation encourage applications from qualified students from all cultural, racial, religious and ethnic groups. Listed below are the specific requirements for admission to this School. It should be understood, however, that only minimum requirements are given, and that admis-

sion is a selective process based upon a student's total academic qualifications, space availability, and limitations on the resources needed to maintain a high quality academic program and atmosphere.

For admission to upper division status in the School of Forest Resources and Conservation, applicants must have completed 61-66* semester-hour credits of general education and preprofessional courses, or their equivalent (see preprofessional program on page 49). The general education and preprotessional courses (in semester-hour credits) include English (6), social sciences (6), humanities (9), behavioral studies (3), analytical geometry and calculus (8) or survey of calculus (6), biological sciences (8), economics (3-6)*, general chemistry and qualitative analysis with lab (11), physics (6) and, statistics (3).

The following conditions will serve as a guide in expediting transfer to the School. Transfer students are encouraged to complete the Associate of Arts degree at a community college (including the general education requirements established by the community college), have a minimum GPA of 2.3, and have completed the required preprofessional program. Students transferring from another unit of the University of Florida, or from another four-year institution, will be required to have completed the equivalent of the preprofessional program and will be subject to the provisions for admission as specifically listed below.

Unconditional Admission: A student may be admitted directly to upper division status in the School upon completion of 61-66* semester-hour credits (91-99* quarter hour credits), including all general education and preprofessional course requirements, with an overall GPA of 2.3, or better, and a minimum GPA of 2.0 in all preprofessional courses in the biological and physical sciences, mathematics, economics, and statistics.

Provisional Admission: The School's Admissions Committee may grant an applicant provisional admission to the School under the following guidelines:

1. The student must have completed a minimum of 61-66* semester-hour credits (91-99* quarter-hour credits) including all general education requirements, with a minimum overall GPA of 2.0 and a minimum 2.0 average in all preprofessional courses in the biological and physical sciences, mathematics, economics, and statistics coursework attempted.

2. The student may be deficient in no more than a total of 8 semester hours of second-term preprofessional coursework in calculus, economics, physics, or analytical chemistry.

3. Students admitted on a provisional basis must earn a grade of "C" or better in all courses during their first two semesters following provisional admission, and must complete all pre-professional course deficiencies, with a grade of "C" or better in each, prior to the Fall semester of the senior year in the program.

4. Failure to comply fully with provisional admission requirements will result in exclusion from further enrollment in the School.

Entry Time for Students: Students who have completed all of their preprofessional coursework should plan their initial enrollment in the School during the fall semester. Course sequencing makes entry at times other than the fall semester difficult. Students who have not completed all of the preprofessional courses in time to enter the School during a fall semester are advised to contact the School of Forest Resources and Conservation for guidance.

*Depending on major

GENERAL ACADEMIC REGULATIONS

Student Responsibility: The student must assume responsibility for registering for the proper courses, completing said courses, maintaining normal academic progress, and fulfilling all requirements for his/her degree.

Normal Credit Hours: The average course load for students in the School of Forest Resources and Conservation is 12-17 credit hours per semester. Upon approval of a faculty adviser, students may be permitted to register for additional hours if their academic record justifies the additional work load. Students should be aware that certain university privileges and benefits require a minimum registration of 12 hours per semester.

Advisement: Upon arrival at the School of Forest Resources and Conservation, a student should contact the Student Records Office of the School. The student will be assigned a faculty adviser appropriate for the desired major. The faculty adviser's role is to assist the student in selecting a major, as well as elective courses suited to the student's interests. Students are encouraged to follow the course sequences approved by the faculty for each major. In the event of course scheduling conflicts, students may, with the consent of the adviser, substitute up to 8 semester hours of major required courses; this substitution may include only one core course.

Residence Requirements: The last 30 semester hours to be applied toward the bachelor's degree must be completed while registered as a student in the School of Forest Resources and Conservation. In special cases, this requirement may be waived. A student must petition for a waiver of this residence requirement and have said petition approved by the faculty of the School in advance of taking non-resident coursework, including correspondence courses.

Correspondence/Extension Courses: No student may apply more than 18 semester hours of correspondence, extension, or non-resident coursework toward the bachelor's degree, of which no more than 12 semester hours may be applied in any one semester, nor more than 12 semester hours in any academic year. Any student intending to apply correspondence coursework towards a degree must have a minimum Upper Division GPA of 2.3, and have prior written approval from his/her academic adviser and the Director of the School, or his designated representative.

Adding/Dropping/Withdrawing: Courses may be added or dropped during the regular drop/add period during the first week of each semester. After this regular drop/add period, courses may be dropped subject to the following restrictions:

1. After the first week and prior to the last two weeks of the semester, students are allowed to drop one course (a free drop) during their SFRC tenure without permission or penalty. Consultation with their adviser is suggested.

2. Subsequent drops without penalty between the second and last two weeks are subject to the approval of the SFRC Petitions Committee subsequent to a recommendation by the academic adviser. No more than three drops (including the free drop) are permitted during a student's upper division tenure in SFRC, and a course may not be dropped a second time. Normally petitions will not be approved except for documented hardship or medical reasons. Overloads do not constitute a hardship.

3. Courses dropped subsequent to the last two weeks (actual deadline date for dropping a course or withdrawing without receiving a failing grade is published in the catalog) are subject to approval only by the University Petitions Committee. Normally, petitions are not approved except for documented hardship or medical reasons.

Normal Academic Progress/Probation/Exclusion: An SFRC undergraduate student whose Upper Division GPA drops below 2.00 (computed for all U.F. credits taken beyond 61-66* hours required for attaining upper division status) shall be considered as not making normal academic progress, and therefore is subject to the provisions of the Exclusion Rule (see Student Academic Regulations section of this catalog). Such students will be allowed two additional semesters in attendance as full-time students in the School to bring their cumulative Upper Division GPA to 2.00 above; otherwise, said students will be excluded from further enrollment in the School; part-time students will be allowed 16 credit hours to reach a 2.00 cumulative upper division GPA. No student, either full- or part-time, may make any grade less than "C" while subject to the above probationary policy. Post-baccalaureate students are subject to the above policy as it applies to all U.F. coursework at the 6FY levvel.

Students admitted on a provisional basis are considered to be on School probation and are required to rectify their provisional admission restrictions during their first year in the School. Failure to satisfy the conditions for provisional admission will result in a student's exclusion from further enrollment in this School.

Petitions: A student who feels that a School regulation presents an undue hardship or injustice may submit a petition to the SFRC Petitions Committee for a waiver of the regulation involved. Information on petitions procedures may be obtained from the Student Records Office in the School.

Graduation Requirements: To be eligible for the Bachelor of Science in Forest Resources and Conservation Degree, the student must:

1. satisfactorily complete all courses required for a degree in an approved major from this School;
2. earn a minimum of 134 acceptable semester-credit hours;
3. have a minimum cumulative Upper Division GPA of 2.00 (computed for all U.F. Coursework taken beyond the 61-66* hours required for attaining upper division status), and a minimum cumulative GPA of 2.00 in all courses required for the major.
4. complete the last 30 credits applied toward the baccalaureate degree during regular residence in the School of Forest Resources and Conservation.
5. file formal application for the degree in the Office of the Registrar during the semester they expect to receive the degree. The official calendar shows the latest date each semester for filing degree applications.

*depending on major

DEAN'S LIST AND GRADUATION WITH HONORS OR HIGH HONORS

Students who carry 15 hours per semester with a grade point average of 3.3 or better and no grade less than C in any course will have their names placed on the Dean's list for that semester.

Students completing the requirements for the B.S. in Forest Resources and Conservation degree are eligible to be considered for graduation with Honors or High Honors.

To graduate with Honors a student must have a University of Florida Upper Division grade point average of 3.5 or above. (For purposes of honors the University of Florida Upper Division courses are defined as all courses taken at this University after the student has earned 64 credits, wherever taken.)

To graduate with High Honors the same requirements apply as for Honors except that the grade point average must be 3.75 or above.

FINANCIAL AID

The School has several scholarships, awards, and loans available. Scholarships and awards include the J. B. Adkins Memorial Scholarship, J. W. Willingham Award, Ring Power Corporation Scholarship, Southwest Forest Industries Scholarship, ITT-Rayonier Senior Scholarship, St. Regis Paper Company Undergraduate Scholarship, Newins-Ziegler Senior Scholastic and Leadership Awards, in addition to scholarships available through the College of Agriculture.

Loans include the Forest Products Loan, Lois Emmel Loan and E. Mize Loan funds.

Additional information may be obtained from the School of Forest Resources and Conservation Student Records Office.

STUDENT ORGANIZATIONS

School of Forest Resources and Conservation students are encouraged to participate in the following clubs or professional organizations:

School of Forest Resources and Conservation Student Council
Forestry Club
Student Chapter of the Society of American Foresters
Student Chapter of The Wildlife Society
Xi Sigma Pi (honorary forestry fraternity)

CURRICULUM

The required sequencing of courses for the majors is listed below.

1. Forestry

JUNIOR YEAR

Fall Semester

FNR 3011C Ecological Principles of Natural Resource Management	4
FNR 3421C Inventory and Analysis of Natural Resources	3
SOS 3022C General Soils	4
SUR 3331 Photogrammetry	2
	13

Spring Semester

FOR 3120C Dendrology	3
FOR 3333C Fundamentals of Forest Pathology	3
FOR 3430C Forest Resource Measurement	3
ENY 3541C Forest Insects	3
SUR 3101C Engineering Measurements	2
ECI 4905 Forest Surveying	1
	15

SENIOR YEAR

Fall Semester

FOR 3140C Wood Structure, Properties and Use	3
FOR 4162C Foundations of Silviculture	4
FOR 4541C Forest Economics	3
FOR 4621C Principles of Forest Management	3
FOR 4753C Forest Operations	3
	16

Spring Semester

FNR 4623C Natural Resource Management	4
FNR 4660C Natural Resource Policy and Administration	3
ENC 3213 Technical Writing and Business Communication	3
WIS 3401C Fundamentals of Wildlife Ecology	3
	13

2. Wildlife Ecology

JUNIOR YEAR

Fall Semester

FNR 3011C Ecological Principles of Natural Resource Management	3
FNR 3421C Inventory and Analysis of Natural Resources	3
SOS 3022C General Soils	4
ZOO 3203C Invertebrate Zoology OR ZOO 3703C Functional Vertebrate Anatomy	4
	14

Spring Semester

FOR 3120C Dendrology	3
WIS 3401C Fundamentals of Wildlife Ecology	3
WIS 4220C Introduction to Fishery Science	3
ZOO 3303C Vertebrate Zoology	3
	12

SENIOR YEAR

Fall Semester

FOR 3123C Range Plants OR BOT 3153C Local Flora	2-3
FOR 4162C Foundations of Silviculture	4
WIS 4541C Terrestrial Wildlife Resources	3
AEB 3413 Economics of Environmental Quality	3
AGR 3303 Genetics	3
	15-16

Spring Semester

FNR 4623C Natural Resource Management	4
FNR 4660C Natural Resource Policy and Administration	3
WIS 4443C Wetlands Wildlife Resources	3
ENC 3213 Technical Writing and Business Communication	3
	13

3. Resource Conservation

Students desiring a degree in Resource Conservation must prepare a plan of study that includes program objectives and a list of coursework. This plan must be approved by the Director. Coursework must include the 4 core courses (FNR 3011C, 3421C, 4623C, 4660C), a minimum of 5 FNR, FOR, or WIS courses, and ENC 3213 (Technical Writing and Business Communication), in addition to approximately 27 credits of planned courses.

Double Majors:

Those students who desire to pursue a double major should contact the School for advisement.

In addition to these required courses, students in all majors must complete graduation requirements described earlier.

MASTER'S DEGREE

Courses are offered in the Graduate School leading either to the Master of Science degree or the Master of Forest Resources and Conservation. The former degree requires a thesis; the latter does not.

For the requirements for these degrees, see the catalog of the Graduate School.

PH.D DEGREE

The School offers the Ph.D. degree in the broad areas of forest biology and wildlife ecology and participates with other departments in offering Ph.D. programs.

For the requirements for this degree, see the catalog of the Graduate School.

College of Health Related Professions

ALLIED HEALTH
CLINICAL AND COMMUNITY DIETETICS
CLINICAL PSYCHOLOGY
COMMUNICATIVE DISORDERS
HEALTH SERVICES ADMINISTRATION
MEDICAL TECHNOLOGY
OCCUPATIONAL THERAPY
PHYSICAL THERAPY
REHABILITATION COUNSELING

College of Health Related Professions

GENERAL STATEMENT

The College of Health Related Professions, an academic unit of the J. Hillis Miller Health Center, provides an opportunity to train needed personnel representing various health careers. This College offers professional curricula leading to undergraduate degrees in allied health, clinical and community dietetics, medical technology, occupational therapy, and physical therapy; master's of health science degrees in occupational therapy and rehabilitation counseling; and a graduate program in health and hospital administration in cooperation with the College of Business Administration. The Department of Clinical Psychology's academic program leads to the Ph.D. in Psychology and the department also offers a nationally accredited predoctoral internship in Clinical Psychology. The Department of Communicative Disorders provides clinical and research opportunities for advanced students in speech pathology and audiology in the College of Arts and Sciences. A Rehabilitation Research Institute relates to ongoing research and assists members of the staff and students with research proposals and projects.

Three resources common to all these academic programs are accessibility of patients in the Shands Teaching Hospital and Clinics, availability of staff and facilities of the College of Medicine, and the presence of a wide range of established course offerings to be found in a large university. The effective operation of various medical, hospital and rehabilitation programs depends upon well trained and properly oriented personnel. The geographic location with the Colleges of Dentistry, Medicine, Nursing, Pharmacy, and Veterinary Medicine strengthens the respective programs of this College by making it possible for those who are to work together to be trained together.

REQUIREMENTS FOR ADMISSIONS

Listed below are the specific requirements for admission to the undergraduate programs offered in this College. Because these are undergraduate programs, selections are made from among those applicants who have not previously completed requirements for a baccalaureate degree (with the exception of physical therapy — see physical therapy general statement, curriculum). It should be understood that minimum requirements are listed. Admission to this College is a selective process, and satisfaction of minimum requirements does not automatically guarantee admission. A student's total record including educational objective, courses completed, quality of academic record, completion of SCAT test, and knowledge of that field will all be considered in evaluating an application of admission. The Department of Clinical and Community Dietetics, in addition to the above, requires that applicants take the Allied Health Professions Admissions Test. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the professional field selected.

The Dean and faculty of the College of Health Related Professions are aware of the need to prepare well qualified graduates in the various baccalaureate degree programs. Limitations in available staff, faculty and facilities make it necessary that the College establish quotas for the admission of students.

The student should consult with the appropriate department chairperson in the college as early as possible regarding his/her program. However, at the time the student files an application for admission into the University, the student must consult with the appropriate department in order to receive additional admission requirements which must be fulfilled or arranged for prior to the February 15th deadline. The sequence of professional courses in all programs begins only in the Fall semester of the Junior year. (Allied Health Programs admits each semester).

Students Classified UF: To be eligible for admission to the College of Health Related Professions, a University College student must have: (1) earned at least 64 semester hours of acceptable college credit with an overall average of 2.6 or higher on all college level work attempted; (2) completed all lower division courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years outlined in the University College sections of this catalog; and (3) passed all required preprofessional courses within the lower division curriculum with an overall average of 2.6 or higher (with the exception of Medical Technology).

Transfer Students: To be eligible for admission to the College of Health Related Professions a student must satisfy the minimum requirements for admission to an Upper Division College set forth in the admissions section of this catalog. Each student should contact directly the specific department to which he wishes to gain admission. Additionally, the applicant must satisfy the following specific requirements for admission to the College of Health Related Professions: (1) Must have completed the courses required for the desired curriculum (or their equivalent with a 2.6 average or higher, with the exception of Medical Technology) as indicated in the program for the Freshman and Sophomore years outlined in the University College section of this catalog, and (2) passed all required preprofessional courses with an overall average of 2.6 or higher (with the exception of Medical Technology).

A. Students attending four year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the Basic Curriculum for the Freshman and Sophomore years for students planning to enter the College of Health Related Professions.

B. Junior College students should:

1. Complete the two-year college parallel program at the junior college.

2. Satisfy the general education requirements established for the junior college.

3. Complete the following courses which are prerequisite for admission to the undergraduate program as designated:

a. *Clinical and Community Dietetics*
General Chemistry and qualitative analysis
Organic chemistry, with laboratory
*Zoology or biology with laboratory
Botany (one quarter or one semester)
Basic Economics
General psychology
Introduction to health related professions, if available
Basic nutrition course, if available
Statistics

b. *Medical Technology*
General chemistry and qualitative analysis
*Zoology or biology with laboratory
Organic chemistry
Quantitative analysis
Statistics
Introduction to health related professions, if available

c. *Occupational Therapy*
*Zoology or biology with laboratory
General psychology
Psychology of personality
Studio arts and crafts, if available
Introduction to health related professions, if available
Observation in settings where occupational therapists work.

d. *Physical Therapy*
General chemistry and qualitative analysis
*Physics
*Zoology or biology with laboratory
General psychology
Personality development or Abnormal Psychology
College Algebra

*1 year course; i.e. 2 semesters or 3 quarters.

C. Health technician students should:

1. Have completed a two year associate degree in an allied health technology.

2. Be registered or licensed in his/her health related specialty.

3. Have work experience in his/her health related specialty.

If the junior/community college does not offer courses that are required for admission to the student's selected curriculum in the College of Health Related Professions, the student should consider transfer to the University prior to graduation from the junior college provided he/she is eligible for admission to the University College. The student is encouraged to consult the appropriate Department Chairperson at the University as early as possible regarding the program.

PROBATION, SUSPENSION, AND EXCLUSION FOR ACADEMIC REASONS

(1) If a student in the College of Health Related Professions receives a grade of "D" or "D+" in a required course in the program, the faculty may provide an opportunity for the student to make up material through independent study or the student may be asked to repeat the course.

(2) If a student receives a second grade of "D" or "D+" in a required course in the curriculum, the student will be required to withdraw from the program. Upon petition to the Department Faculty Committee, and on a space available basis, the student may be allowed to repeat the second required course in which the grade of "D" or "D+" was received. Following completion of this course, with a grade of "C" or higher, the student may continue in the program. In Physical Therapy, the student who receives a second grade of "D" or "D+" will be required to withdraw from the program.

(3) If a student receives an "E" in a required course, the student must withdraw from the program. If space is available, upon petition to the Department Faculty Committee, the student may be permitted to repeat the course the next time it is offered and must achieve a grade of "C" or better. In Physical Therapy, the student receiving an "E" in a required course will be required to withdraw from the program.

(4) If the student receives an "Unsatisfactory" grade in a required course graded on a "S-U" basis, the faculty may provide opportunity for the student to make up material through independent study or the student may be asked to repeat the course.

(5) If a student receives two "Unsatisfactory" grades in required courses graded on a "S-U" basis, the student will be required to withdraw from the program.

(6) If a student receives a grade less than "C" in a required course, and an "Unsatisfactory" grade in a required course graded on a "S-U" basis, the student will be required to withdraw from the program.

In addition to University probation, students may be placed on probation by the College of Health Related Professions if they do not maintain normal academic progress in the program of study in which they are engaged.

A student with less than a 2.0 grade point average overall for work completed after acceptance into the College of Health Related Professions shall be placed on scholarship warning if he or she has a grade point deficit which is less than 10.

A student with less than a 2.0 grade point average overall for work completed after acceptance into the College of Health Related Professions shall be placed on scholarship probation if he or she has a grade point deficit of 10 or more, but less than 20.

GRADUATE PROGRAMS

Graduate work in health and hospital administration leads to the degree, Master of Business Administration. Major responsibility for the program rests with the College of Business Administration and the College of Health Related Professions. For requirements for this degree, consult the *Graduate School catalog*.

The Department of Communicative Disorders in the College of Health Related Professions offers graduate courses in speech pathology and audiology, which lead to a Master of Arts degree through the Department of Speech in the College of Liberal Arts and Sciences. For requirements for this degree, consult the *Graduate School catalog*.

Graduate work in occupational therapy leads to the degree of Master of Health Science. For requirements for this degree, consult the *Graduate School catalog*.

Graduate work in rehabilitation counseling leads to the degree of Master of Health Science. For requirements for this degree, consult the *Graduate School catalog*.

Graduate work in clinical psychology leads to the degree of Doctor of Philosophy in psychology. For requirements for this degree, consult the *Graduate School catalog*.

HEALTH POLICIES

The College of Health Related Professions requires evidence of sound physical and mental health for admission.

At the beginning of the junior and senior years, personnel of the Department of Student Health will test each Health Related Professions student for sensitivity to tuberculosis; students in the BHS program are exempt from the test except for those in dental hygiene. The Department of Student Health will verify immunization against diphtheria and tetanus.

Each student registered in clinical courses is required to have some form of hospitalization insurance. Fulltime students are eligible for the health insurance plans sponsored by the Student Government which may be purchased at the time of registration. This provides twelve month coverage.

HONORS

GRADUATION WITH HONORS AND HIGH HONORS

To graduate with honors, each program will identify only the top 20% of the students in its graduating class by Upper Division grade point average, which will be computed after acceptance into the College of Health Related Professions as an Upper Division student. A minimum of 40 semester credits while enrolled in the College of Health Related Professions program is needed in order to be eligible. In addition, the individual program will establish additional criteria which must be met by this 20% to graduate with honors and if the students identified in the top academic 20% of the class do not qualify for departmental outstanding category, they will not be recommended for graduation with honors by the faculty. Thus, less than 20% would graduate with honors.

In addition, those students in the selected 20% of the graduating class earning an overall 4.0 GPA would receive High Honors.

DEAN'S LIST

The Dean's List recognizes outstanding academic achievement at the completion of each quarter. Inclusion on the list is awarded to all students who during that term have earned a grade point average 3.65 or higher on course work of at least 12 hours. Students receiving a "U" or "I" during the semester will not be considered for the Dean's List, regardless of the computed grade point average.

ALPHA ETA SOCIETY

Alpha Eta Society is a national honor society for students in the health related professions. The University of Florida's

chapter is the first and charter member of the Society. Alpha Eta is an officially recognized campus organization and the first of its kind in the country. Members are chosen from any degree offering division of the College. The purpose of this society is to encourage and recognize scholarly and professional attainments and to promote the advancement of professional standards in the health related professions.

PROFESSIONAL ORGANIZATIONS AND CLUBS

Students are also eligible for other university honorary fraternities. In addition, each curriculum has professional clubs associated with it which all interested students are eligible to join.

EXPENSES

In addition to the usual University tuition and fees, students will be expected to furnish designated uniforms and shoes for clinical work. This will be necessary for students in occupational therapy, physical therapy, and clinical and community dietetics in the Junior and Senior year and for students in medical technology in the Senior year.

Field experience is required of students in occupational therapy and physical therapy. The student shall be responsible for financing this portion of his preparation. Costs vary depending upon location of the field assignment.

STUDENT AID

Students interested in part-time employment, assistantships, loans, prizes, and awards should apply to the office of Student Financial Aid, University of Florida, Gainesville, Florida. A limited amount of scholarship, traineeship, and loan assistance reserved exclusively for students in the College of Health Related Professions, is administered by the College. Application for such assistance is made to the Chairperson of the department in which the student plans to major.

ALLIED HEALTH PROGRAM FOR HEALTH TECHNICIANS WITH ASSOCIATE DEGREES

GENERAL STATEMENT

This program is designed for allied health personnel who have an associate of art, science, or applied science degree in specific health related programs such as respiratory therapy, dental hygiene, nursing, radiologic technology, etc.

The Program objectives are:

1. The education and upgrading of personnel who have earned an associate degree in a clinical service area in a health related field.

2. To provide for allied education students significant opportunities for selection of courses in the applied behavioral, social and natural sciences.

3. To prepare students to meet new health service demands by providing courses emphasizing (a) the study of human values, (b) illness prevention and health promotion and (c) the planning, organizational and evaluation priorities and alternative systems for delivering health care services.

4. To provide middle management personnel in the clinical service departments of hospitals and related health facilities.

CURRICULUM

Since students admitted in this program have varied backgrounds, each student's transcript will be evaluated and an individualized curriculum will be developed to maximize the student's previous academic background and career goals. College credits of students accepted with an Associate of Science or Applied Science degree will be credited only to this program. Students who wish to transfer to other University degree programs before completion of this program will have their credentials re-evaluated by the college offering the degree. A maximum of 64 semester (96 quarter) hours of credit transferred from or through a junior college may be applied toward the quantitative requirements for a University of Florida degree.

A selections committee determines the student's eligibility for admission to the program. Enrollment is based upon the limitations imposed by laboratory and clinical facilities. Admission to the University does not guarantee admission to this program.

The Bachelor of Health Science degree is awarded upon the satisfactory completion of the course requirements for this program.

UPPER DIVISION REQUIREMENTS FOR BACHELOR OF HEALTH SCIENCE PROGRAM FOR THE ALLIED HEALTH TECHNICIAN WITH AN ASSOCIATE DEGREE:

The student admitted into the program must complete courses in Sections I, II and III below.

I. Health Services Administration Core — *Credits*

HCA 4112 The American Health Care System	3
HCA 4511 Supervisory Skills in Health Care Administration	2
HSC 4162 The Hospital and Related Organizations	2
HSC 4391 Social Issues in Health Care (or equivalent)	3
STA 3013 Statistics	3
HCA 4203 Dimensions of Health Care Cost	2
HCA 4611 Introduction to Health Care Planning	2
HSC 4573 Research & Evaluation in Health Service Administration	4
Total	21

II. Related Area Electives

The student must complete a minimum of 10 hours of electives. The following are examples of cognate courses; additional cognates will be developed in consultation with appropriate colleges.

HSC 4930 Ethical Issues in Health Care Delivery	3
PHI 4633 Ethics and Health Care	3
ENC 3352 Technical Writing and Business Communications	2 to 3
HCA 4410 Humanities and Medicine	3
HCA 4910 Humanistic Issues in Health Care	3
ANT 4464 Comparative Health Systems	3
HSC 4930 Special Topics: Case Studies in Health Care Supervision	2
SOC 4243 Soc of Death and Survivorship	3

III. General Education

The curriculum completed by individuals with an associate degree in a specific health technology varies greatly in the number of hours and types of general education courses. The number of ccourses and credits transferable to meet the University's general education requirements will be determined by the College of Health Related Professions Dean's Office. The University requires no less than 36 semester hours of general education to be completed in order to graduate with the Bachelor of Health Science degree. General education courses should be balanced to include work in five of the following areas: Mathematics, English, Social Sciences, Behavioral Studies, Humanities, Physical Sciences, and Biological Sciences, with a minimum of 6 credits in at least three areas.

IV. Other Electives

Additional courses taken to complete the total number of credits required to graduate should include course work

which would serve to strengthen the background knowledge and special interests of the students.

Maximum semester credits accepted for transfer 64
Upper divisions credit requirements ..... 60 to 72
Credit requirements for BHS degree ..... 126 to 136

ALLIED HEALTH PROGRAM FOR DENTAL HYGIENISTS WITH ASSOCIATE DEGREES

GENERAL STATEMENT

This program is designed for allied health personnel who have an associate of science, or applied science, degree in the specific health related area of dental hygiene.

The objective of this program is to prepare associate degree dental hygienists for greater responsibilities in the health care system by (1) strengthening their technical competencies, (2) developing minimal capabilities for the field of dental hygiene education and (3) developing their capabilities in middle management skills.

CURRICULUM

Since students admitted to the Bachelor of Health Science program have varied backgrounds, each student's transcript will be evaluated and an individual curriculum will be developed to maximize the student's previous academic background and vocational goals. College credits of students accepted with an Associate of Science or Applied Science degree will be credited only to the Bachelor of Health Science program. Students who wish to transfer to other University degree programs before completion of the Bachelor of Health Science program will have their credentials re-evaluated by the college offering the degree. No more than 64 semester (96 quarter) hours of credits transferred from or through a junior college may be applied toward the quantitative requirements for a University of Florida degree.

A Selection Committee determines the students eligibility for admission to the program. Enrollment is based on limitations imposed by laboratory and clinical facilities and materials. Admission to the University does not guarantee admission to this program.

The Bachelor of Health Science degree is awarded upon the satisfactory completion of the course requirements for this program.

UPPER DIVISION REQUIREMENTS FOR BACHELOR OF HEALTH SCIENCE FOR THE DENTAL HYGIENISTS WITH ASSOCIATE DEGREES:

The student admitted into the program must complete courses in Sections I, II and III.

I. Health Services Administration Core — Credits

HCA 4112 The American Health Care System 3
HCA 4511 Supervisory Skills in Health Care Administration 2
HCA 4802 Practicum 6
HSC 4905 Individual Study: Oral Health and Disease in the Population 3
HSC 4905 Individual Study: Perio Treatment Planning and Disease Control Therapy 2
HSC 4391 Social Issues in Health Care (or equivalent) 3
HSC 4930 Special Topics: Periodontal Pathology and Clinical Diagnosis 3

Total 22

II. A. Related Area Electives

The student must complete a minimum of 11 hours of cognate electives from the following courses (or equivalents). Two of the elective courses must be selected from those listed in Part B of this section. Additional cognates will be developed in consultation with appropriate colleges.

APB 3203 Basic Human Anatomy and Physiology 3
HSC 4573 Research & Evaluation in Health Services Administration 4
HSC 4162 The Hospital and Related Organizations 2
HSC 4390 Ethical Issues in Health Care Delivery 3
HSC 4930 Special Topics: Case Studies in Health Care Supervision 2
EVT 6170 Technical Education in Post High School Programs 4
EVT 6381 Teaching Technical Education 3
EVT 6382 Special Methods in Technical and Health Occupations Education 3
EVT 6167 Program Development in Health Occupations and Adult Education 4

II. B. Related Area Electives-Dental (Students must take two of the following)

HSC 4905 Individual Study: Foundations of Human Behavior 2
HSC 4930 Special Topics: Dentist as a Community Resource 2
HSC 4930 Special Topics: Practice Management 2
HSC 4905 Individual Study: Background, Organization, and Responsibilities of the Dental Profession 3

III. General Education

The number of courses and credits transferable to meet the University's general education requirements will be determined by the College of Health Related Professions Dean's Office. The University requires no less than 36 semester hours of general education to be completed in order to graduate with a Bachelor of Health Science degree. The general education courses should be balanced to include work in five of the following areas: Mathematics, English, Social Sciences, Behavioral Studies, Humanities, Physical Sciences and Biological Sciences, with a minimum of 6 credits in at least three areas.

IV. Other Electives

Additional courses may be taken to make up the total number of credits required to graduate. These courses may be those which would serve to strengthen the background knowledge of the student's technical health related competencies.

Maximum semester credits accepted for transfer 64
Upper division credit requirements 60-72

Credit requirements for BHS degree 126-136

CLINICAL AND COMMUNITY DIETETICS GENERAL STATEMENT

Clinical and Community Dietetics offers a challenging career for young men and women who are interested in science, health care and food, and who like to work with people as individuals and groups. The selection of food to supply required nutrients for optimal health is an integral part of comprehensive health care. The dietitian brings to the health care team knowledge of the composition of food, knowledge of individual nutrient requirements throughout the life span and the ability to modify texture and nutrients in the diet as necessitated by disease.

The clinical dietitian is a specialist who works with the medical team and assumes responsibility for the nutritional component of comprehensive health care. The specialist estimates nutrient intakes and requirements in a variety of situations, determines how individual dietetic needs can be met, and instructs and counsels the individual patient. The clinical dietitian diagnoses nutritional problems and designs new dietetic approaches to the management of specific diseases. The individual may design the nutrition component of research protocols and implement the controlled diets necessary for medical research.

The community dietitian knows the community resources available for comprehensive health care, works with nutritionally vulnerable individuals and groups in the com-

munity, and functions as a member of the community health team. Clinical and community dietitians may serve as consultants, advisers, supervise supportive personnel and participate in educational activities in a variety of settings.

REGISTRATION

Satisfactory completion of the academic and clinical requirements is the basis for professional membership in the American Dietetic Association and eligibility to take the registration examination. Successful passing of this examination qualifies the candidate as a Registered Dietitian (R.D.). National registration is the basis for employment in civilian, military, state and federal hospitals throughout the United States.

CURRICULUM

The Bachelor of Health Science with a major in clinical and community dietetics is awarded upon completion of the course requirements in the curriculum. The program is designed to meet the requirements of the American Dietetic Association.

The sequence of professional courses in clinical and community dietetics begins in the Fall semester of the academic year and requires five semesters to complete.

The sequence begins with Dietetics I which analyzes the influence of environmental factors such as economics, technological change, age, race, education, religion and cultural and social influences on the establishment of food habits. Beginning skills in patient interviewing, nutritional assessment, anthropometric measurements, documentation of patient care, and modification of diets for consistency and nutrient content are developed.

The second course in the sequence introduces principles of management, food preparation and selection, and economic aspects of food systems management.

The third course provides for development of advanced skills in organization and management, purchasing, inventory control, production, service sanitation and safety, cost control and personnel management in food service systems.

The fourth course provides the opportunity to apply principles of nutrition assessment, guidance and education for clients in all stages of the life cycle.

The fifth course provides for application of dietetic skills in nutritional management of diseases related to nutrient intake and nutritional requirements created by disease.

The sixth course is for community dietetics majors only and provides entry-level practice in various community programs.

The seventh course is for clinical dietetics majors only and provides entry-level practice in various medical units.

A selections committee determines the students who are to be accepted. Enrollment is based upon the limitations imposed by laboratory and clinical facilities. Admission to the University does not guarantee admission to this curriculum. For specific requirements for undergraduate admission, refer to the section on "Requirements for Admission" to the College.

Students planning to major in Clinical and Community Dietetics should contact the Program Director at the earliest possible date by letter and/or personal interview. A personal interview is required of all applicants.

Selection of students to enter the program in the Fall will be accomplished during the Spring semester. Application materials should be submitted by February 15.

REQUIREMENTS FOR BACHELOR OF HEALTH SCIENCE IN CLINICAL OR COMMUNITY DIETETICS

FRESHMAN YEAR

	Credits
Social Sciences	3
BSC 2010-2011 Integrated Principles of Biology	8
CHM 2040-2041-2042L General Chemistry	7
MAC 1132 Algebra and Trigonometry	4
HUN 2201 Fundamentals of Human Nutrition	3
ECO 2013 Basic Economics	3
Electives	4
Total	32

SOPHOMORE YEAR

	Credits
Humanities	9
English	6
CHM 2043C General Chemistry	4
CHM 3200 Organic Chemistry	3
CHM 3200L Organic Chemistry Laboratory	1
HSC 1001 Introduction to Health Related Professions	2
PSY 2013 General Psychology	3
STA 3023 Introduction to Statistics	3
Electives	1
Total	32

JUNIOR YEAR

	Credits
DIE 3535 Dietetics I	7
APB 3203 Basic Anatomy and Physiology	3
HUN 3246 Agricultural and Nutritional Biochemistry	3
MCB 3020 Basic Biology of Microorganisms	3
MCB 3020L Basic Biology of Microorganisms Laboratory	1
DIE 3173 Dietetics II	6
HUN 3221 Introduction to Human Nutrition	3
Electives	6
Total	32

SENIOR YEAR

	Credits
DIE 4174 Dietetics III	6
HUN 4241 Human Nutrition	3
DIE 4355 Dietetics IV	5
DIE 4274 Dietetics V	5
DIE 4516 Clinical and Community Dietetics Seminar	2
Total	21

Spring Semester	Credits
Community Dietetics Option	
DIE 4376 Dietetics VI	11
HSC 4905 Individual Study in Clinical and Community Dietetics	2
Total	13
Clinical Dietetics Option	
DIE 4276 Dietetics VII	11
HSC 4905 Individual Study in Clinical and Community Dietetics	2
Total	13
Total	130

MEDICAL TECHNOLOGY GENERAL STATEMENT

Medical Technology encompasses the largest single group of clinical laboratory scientists. As the number and complexity of clinical laboratory examinations and procedures continue to expand, the need for well-educated medical technologists for service, teaching, research, and administrative positions increases. Many excellent employment opportunities are available for men and women with degrees in medical technology.

Medical Technologists furnish physicians with laboratory data essential to the diagnosis and treatment of patients. They perform the majority of the chemical and hematologic examinations of blood and other body fluids, the isolation and identification of bacteria and other disease producing organisms, blood banking procedures, immunologic tests and related medical laboratory studies. Most medical technologists work in hospital laboratories and in research and

public health facilities. They also have excellent employment opportunities in biological and pharmaceutical firms, in veterinary medicine, in laboratory educational programs, and in many areas which require highly qualified clinical laboratory scientists.

LICENSURE:

All laboratory personnel in Florida must be licensed except those employed in federal government institutions and in laboratories operated by not more than 5 physicians for performance of procedures on their patients only. Requirements for licensure under Florida Clinical Laboratory Law, Chapter, 483, Florida Statutes, 1967, can be found in Rules Chap. 10D-41, State of Florida. Division of Health. Examinations for licensure are given semi-annually by the State.

PROFESSIONAL ORGANIZATIONS

Lambda Tau is a national medical technology honor society with established chapters in undergraduate colleges and universities. Its purposes are: to develop a spirit of cooperation and unity among students entering any of the fields of medical laboratory technology; to stimulate a higher type of ideal for scholastic effort, to encourage research, and to help develop the professional character of the work itself; and to interest other students in these fields. Students maintaining a required scholastic average are eligible for membership.

Students enrolled in the professional curriculum may become student members of the American Society for Medical Technology. They may participate at the state and national level in this organization.

CURRICULUM

The Bachelor of Health Science in Medical Technology is awarded upon the satisfactory completion of the course requirements in the medical technology curriculum. The program has been approved by the Committee on Allied Health Education and Accreditation (CAHEA) of the American Medical Association. Satisfactory completion of these requirements is the basis for eligibility for examination by the Registry of Medical Technologists of the American Society of Clinical Pathologists. Passing of this examination qualifies the candidate for registration as a Medical Technologist (ASCP). Graduates of the program are also eligible to take the Clinical Laboratory Scientist (CLS) certification examination of the National Certification Agency for Medical Laboratory Personnel and other national medical laboratory generalists examinations. This medical technology program also meets requirements for admission to licensure examinations in those states which regulate the practice of medical technology. Graduates of the program may become active members in the American Society for Medical Technology and other professional laboratory organizations.

An Admissions Committee determines the students who are to be accepted. Enrollment is based upon the limitations imposed by available laboratory and clinical facilities and materials. Admission to the University does not guarantee admission to this curriculum.

Consult the section of the catalog entitled College of Liberal Arts and Sciences, Information for Freshman and Sophomores, College of Health Related Professions for listings of preprofessional course requirements.

REQUIREMENTS FOR BACHELOR OF HEALTH SCIENCE IN MEDICAL TECHNOLOGY:

FRESHMAN YEAR

	Credits
Social Sciences	6
English	6
*MAC 1132 Algebra and Trigonometry	4
**CHM 2042, 2042L General Chemistry	4
CHM 2043C General Chemistry	4
HSC 1001 Introduction to Health Related Professions	2
MLS 2030 Introduction to Medical Technology	1
Electives	4
Total	31

*Students who qualify should take an advanced mathematics course instead of MAC 1132. Consult academic advisor.
**CHM 2040, 2041 and 2042L may be substituted.

SOPHOMORE YEAR

	Credits
The Humanities	9
Behavioral Studies	3
BSC 2010C, 2011C Biological Sciences Integrated Sequence	8
CHM 3200, 3200L Organic Chemistry	4
CHM 3120, 3120L Analytical Chemistry	4
STA 3023 Introduction to Statistics	3
Electives	2
Total	33

JUNIOR YEAR

	Credits
MLS 3308, 3308L Fundamentals of Hematology with Laboratory	4
MLS 3550, 3550L Advanced Immunohematology with Laboratory	3
MLS 3627, 3627L Laboratory Instrumentation and Clinical Biochemistry with Laboratory	4
MLS 3932 Seminar: Essentials of Medical Laboratory Science	1
MLS 3933 Seminar: Current Topics in Clinical Laboratory Science	1
APB 3203 Basic Anatomy and Physiology	3
APB 4544 Human Parasitology	3
APB 4545L Human Parasitology Laboratory for Medical Technologists	1
MCB 3020, 3020L Basic Biology of Microorganisms with Laboratory	4
MCB 4203 Bacterial Pathogens	2
MCB 4203L Experiments with Bacterial Pathogens	1
PCB 4233 Basic Immunology	3
PCB 4233L Experiments in Immunology	1
Electives	2
Total	33

SENIOR YEAR

	Credits
MLS 4320C Advanced Hematology	3
MLS 4460C Advanced Microbiology	5
MLS 4555C Selected Topics in Blood Banking	1
MLS 4630C Advanced Clinical Chemistry	5
MLS 4840C Clinical Laboratory Practicum — Clinical Chemistry	3
MLS 4841C Clinical Laboratory Practicum — Microbiology	3
MLS 4842C Clinical Laboratory Practicum — Hematology	3
MLS 4843C Clinical Laboratory Practicum — Blood Banking	3
MLS 4844C Clinical Laboratory Practicum — Specialty Laboratories	3
MLS 4850 Principles of Clinical Laboratory Methodology (Medical Parasitology-Mycology)	2
MLS 4851 Principles of Clinical Laboratory Methodology (Epidemiology)	2
MLS 4852 Principles of Clinical Laboratory Methodology (Serology-Toxicology-Immunochemistry)	2
MLS 4853 Principles of Clinical Laboratory Methodology (Coagulation-Microbiology-Hematology-Blood Banking)	2
MLS 4934C Seminar in Medical Technology (Laboratory Education/Student Seminars)	1
MLS 4935C Seminar in Medical Technology (Student Seminars/Laboratory Management)	1
MLS 4936C Seminar in Medical Technology (Clinical Case Studies)	1
Total	40

OCCUPATIONAL THERAPY GENERAL STATEMENT

Occupational therapy is an integral part of the comprehensive medical care and rehabilitation of patients with physical and mental illnesses. The occupational therapist uses creative arts, manual skills; recreational, educational and prevocational activities to assist in restoring ill and disabled persons to health. The activities for each patient are selected to meet specific problems and needs.

A variety of activities are utilized in evaluation and treatment of patients with psychiatric disorders. For example, creative activities may be utilized in the treatment of a mentally ill person in order to stimulate emotional growth and to develop healthy, interpersonal relationships. Since the majority of the activities are manual in nature, occupational therapy for the physically handicapped patients is used mainly to improve functional hand and arm use. The activities selected may improve physical performance by providing specific exercise to improve coordination, to build endurance, or to restore motion and strength. Occupational therapy for children assists in the development of basic motor skills and in the acquisition of the manual and social skills required for school and play.

The occupational therapist also helps the severely disabled person to become independent in activities of daily living by adapting equipment and modifying tasks to meet the needs of the patient. Information related to a patient's potential for employment is obtained through the evaluation of the factors required for successful performance of various tasks relating to work skills and work habits.

Occupational therapists work closely with physicians and other members of the health team as they play important roles in helping those with disabilities and illnesses to function at their greatest potential. Occupational therapists also work in community health agencies, and public schools in direct service to clients, as consultants and supervisors for occupational therapy assistants. There are many interesting and challenging opportunities for placement and for advancement in the profession.

CERTIFICATION AND LICENSURE

Satisfactory completion of the academic and clinical internship requirements is needed for eligibility to take the National Certification Examination, which qualifies the candidate as a registered occupational therapist (OTR).

To be eligible to work as an occupational therapist in the state of Florida, a person must be licensed under the provisions of the Occupational Therapy Practice Act, Florida Statutes, Chapter 468. State licensure for occupational therapists is administered under the auspices of the Florida State Board of Medical Examiners, Division of Occupational Therapy.

PROFESSIONAL CLUBS AND ORGANIZATIONS

The Student Occupational Therapy Association of the University of Florida is officially recognized as a campus organization. Membership is open to all university students who are interested in occupational therapy. The purpose of SOTA is to stimulate interest in occupational therapy among prospective and currently enrolled students and among related professional community groups.

Students formally enrolled in the professional curriculum are eligible to become student members of the American Occupational Therapy Association and of the Florida Occupational Therapy Association.

CURRICULUM

The Bachelor of Health Science in Occupational Therapy is awarded upon completion of the course requirements in the occupational therapy curriculum. One of these requirements is the completion of a minimum of eight months of clinical internship. This includes one full time experience in a psychiatric setting, an experience in an approved center offering a variety of physical disabilities, and a third experience working with either children or the elderly.

The curriculum in occupational therapy is approved by the Council on Medical Education of the American Medical Association and by the American Occupational Therapy Association. The sequence of professional courses in occupational therapy begins only in the Fall semester of each academic year. The Senior year sequence requires enrollment for all three academic semesters.

A Selections Committee determines the students who are to be accepted. Enrollment is based upon the limitations imposed by laboratory and clinical facilities and materials. Admission to the University does not guarantee admission to this curriculum. For specific requirements for undergraduate admission, refer to the section on "Requirements for Admission" to the College.

REQUIREMENTS FOR BACHELOR OF HEALTH SCIENCE IN OCCUPATIONAL THERAPY:

During the Freshman and Sophomore years the student will complete the general education requirements leading to an Associate of Arts degree, or its equivalent, for transfer and evaluation by the University of Florida.

Students are encouraged to select those courses which will give them the greatest breadth of knowledge as a liberally educated person.

The required pre-professional courses that must be completed prior to admission to the program are: 1) one year of biological sciences with a laboratory, which may include General Biology, Zoology, Anatomy and Physiology or their equivalent (APB 2150, 2151 and 2152L will fulfill this requirement) and 2) two courses in psychology, General Psychology and PPE 3004 Psychology of Personality. (Child or Adolescent Psychology may be substituted for Psychology of Personality, if coming from another educational institution where this course is not offered.) Introduction to Health Related Professions is strongly recommended. Foundations in Occupational Therapy is required for graduation and may be taken during the Freshman or Sophomore years.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
APB 2150 Biological Sciences 1	3
APB 2151 Biological Sciences 2	3
APB 2152L Laboratory in Biological Sciences	1
PSY 2013 General Psychology	3
Mathematics	3
English	6
HSC 1001 Introduction to Health Related Professions	2
PEM 1100 Physical Education	2
Electives	9

SOPHOMORE YEAR

PPE 3004 Psychology of Personality	4
OTH 2000 Foundations in Occupational Therapy	2
Humanities	9
Social Science	6
Physical Science	6
Electives	5

Summer Session

Students may complete prerequisites for admission to the program and those accepted for the Occupational Therapy Program may elect available courses in the Department of Occupational Therapy.

JUNIOR YEAR

	Credits
Two Semesters Enrollment Required	
OTH 2000 Foundations in Occupational Therapy	2
OTH 3010 Therapeutic Procedures	2
OTH 3200 Applied Human Development 1	3
OTH 3201 Applied Human Development 2	3
OTH 3110C Therapeutic Skills	4
OTH 4412C Musculoskeletal Anatomy and Kinesiology	5

OTH 4810 Practicum 1 2
HSC 4550 Psychiatric Disorders 3
HSC 4522C The Nervous System and Disorders 4
APB 4503C Human Physiology and Dysfunction 4

SENIOR YEAR

Three Semesters Enrollment Required

OTH 3110C Therapeutic Skills 2 and 3 4
OTH 4320C Psychosocial Dysfunction 1 4
OTH 4321C Psychosocial Dysfunction 2 1
OTH 4421C Physical Health and Dysfunction 1 4
OTH 4422C Physical Health and Dysfunction 2 1
OTH 4500 Pediatric Health and Dysfunction 1 4
OTH 4501 Pediatric Health and Dysfunction 2 1
OTH 4811 Practicum 2 2
OTH 4845 Internship 1 4
OTH 4846 Internship 2 8
OTH 4935 Occupational Therapy Management and Research 3
HSC 4930 Special Topics or HSC 4905 Individual Study in Health Related Professions ..... var.

PHYSICAL THERAPY GENERAL STATEMENT

Physical therapy offers a challenging career for men and women who are interested in scientific and medical fields and who like to work with people. Graduates have a wide choice of employment opportunities. It is one of a number of services closely allied with comprehensive health care and is an integral part of rehabilitation. It has, as its objective, optimum functional restoration of patients disabled by illness or injury.

Patients are referred to physical therapy by medical and osteopathic physicians and dentists with whom the physical therapist works closely in carrying out evaluative procedures to determine the degree and extent of disability and in planning and administering the therapeutic program. The types of disabilities seen are those resulting from fractures, nerve injuries, birth defects, brain damage, cardiac problems, "stroke", and other diseases of bone, joint, circulatory, respiratory and neuromuscular systems.

Physical therapy requires knowledge in biological, physical and behavioral sciences such as psychology, gross and applied anatomy, physiology and pathology. It utilizes this knowledge in the application of therapeutic properties of exercise, heat, cold, electricity, ultra-sound and massage. The physical therapist works closely with the physician, occupational therapist, nurse, speech therapist, audiologist, psychologist, and other members of the health team as they combine their skills and knowledge for the welfare of the patient.

In addition, physical therapists work with medical personnel in community health organizations by contributing to planning programs of patient care and management. Consumer demands for health care are increasing due to an expansion in technology, specialization and consumer awareness. Physical therapy is meeting this increasing complexity by expanding its traditional role from that of the clinician to include that of administrator, consultant, educator and researcher in the health care environment of institutional, community and organizational systems.

LICENSURE

To be eligible to work as a physical therapist in Florida, a person must be licensed under the provisions of the Physical Therapy Practice Act, Florida Statutes, Chapter 486. State licensure for physical therapists is administered under the auspices of the Florida State Board of Medical Examiners, Division of Physical Therapy. Examinations for licensure under this Act are currently given semi-annually.

PROFESSIONAL CLUBS AND ORGANIZATIONS

The University of Florida Student Physical Therapy Association is officially recognized as a campus organization. It is open to all students registered at the University who are interested in physical therapy. Its purpose is to promote personal and professional growth of its members and greater interest and understanding of physical therapy through participation in the activities of student and graduate professional organizations. Those interested in participating in this organization may contact the departmental office at the Health Center for additional information.

CURRICULUM

The Bachelor of Health Science in Physical Therapy is awarded upon satisfactory completion of the course requirements in the physical therapy curriculum. This curriculum is accredited by the American Physical Therapy Association. Courses listed in the curriculum must be taken in approved sequence. A physical therapy course in which a grade earned is "U" or below "C" will be considered completed unsatisfactorily and may not be counted towards degree requirements (refer to "probation, suspension and exclusion for academic reasons).

As a part of the academic requirements, students are assigned for a 16 to 18.week period of field experience in facilities approved by the faculty of the Department of Physical Therapy. No student will be awarded his/her degree or be qualified to practice physical therapy until he/she has satisfactorily completed these field experiences.

Satisfactory completion of these requirements is the basis for professional certification as a physical therapist: (1) in all states upon satisfaction of their practice acts, (2) for membership in the American Physical Therapy Association, (3) for employment in general and specialized hospitals, rehabilitation centers, schools for handicapped children, public health programs, and facilities for the chronically ill, and (4) for service as a commissioned officer in the Armed Services.

This department will accept applications for admission consideration to its educational program from those individuals at the undergraduate level and those already holding a baccalaureate degree. A GENERAL INFORMATION LETTER will be sent to all those requesting further information about the program. This may be obtained by writing to the Department of Physical Therapy, Box J-154, JHMHC, Gainesville, FL 32610.

Classes in physical therapy begin only in the fall of each year. Enrollment in the curriculum is determined by the Admissions Committee of the department. Meeting minimum requirements for admission to the University does not guarantee acceptance in this professional curriculum. Enrollment is based upon the limitations imposed by laboratory and clinical facilities and clinical materials. For the admission requirements, refer to the information "Requirements for Admission for the College of Health Related Professions."

Upon successful completion of this program, undergraduate and post-baccalaureate students are awarded the degree of Bachelor of Health Science in Physical Therapy.

The deadline for receipt of all credentials in the department for fall semester enrollment is the preceding February 15.

Students planning to major in physical therapy should contact the department at the earliest possible date. A SCAT test, completion of a college student information form and a personal interview is required of all applicants who successfully meet all other admission requirements. Academic requirements include: a minimum of 2.6 GPA overall average for college work (upper division work for those with baccalaureate degrees), a 2.6 GPA in the preprofessional courses, and a 2.6 GPA in the biological science courses. All preprofessional courses must be completed by June 30th of the year the student wishes to enter the curriculum (consult section of catalog entitled the Lower Division, Health Related Professions; for listing of preprofessional course requirement).

FRESHMAN YEAR

ENG English 6
Social Sciences 6

COLLEGE OF HEALTH RELATED PROFESSIONS

*CHM 2040, 2041, 2042L General Chemistry OR CHM 2042, 2042L, 2043	8-11
*MAC 1132 Algebra and Trigonometry	4
*PSY 2013 General Psychology	3
Electives	7
Total	33

SOPHOMORE YEAR

Humanities	9
BES Behavioral Studies	3
*CHM 2043C GENERAL CHEMISTRY (if not completed)	4
/BSC 2010C Integrated Principles of Biology I	4
*ZOO 3703 Functional Vertebrate Anatomy OR BSC 2011C Integrated Principles of Biology II	4
*PHY 2004, 2005, 2004L Applied Physics	7
*CLP 4144 Abnormal Psychology OR PPE 3004 Psych. of Personality	3
TOTAL	30-34

*Prerequisite courses

JUNIOR YEAR

APB 3203 Human Physiology	3
HSC 4516 Medical/Surgical Disorders I	4
PHT 3001 Introduction to Physical Therapy	2
PHT 3100 Basic Anatomy & Kinesiology	4
PHT 3160 Neuroscience	3
PHT 3213 Clinical Science I: Basic Skills	3
PHT 3214 Clinical Science II: Evaluation	4
PHT 3215 Physical Modalities I	1
PHT 3216 Physical Modalities II	2
PHT 3801 Clinical Practicum I	1
PHT 4910 Scientific Inquiry I	1
Total	28

SENIOR YEAR

HSC 4517 Medical/Surgical Disorders II	4
PHT 4111 Anatomy/Dissection	3
PHT 4155 Exercise Physiology	2
PHT 4234 Therapeutic Exercise I	4
PHT 4235 Therapeutic Exercise II	4
PHT 4500 Community Health	2
PHT 4822 Clinical Practicum II	2
PHT 4823 Clinical Practicum III	2
PHT 4824-4825 Internship (I-2, II-12)	14
PHT 4911 Scientific Inquiry II	1
PHT 4930 Senior Seminar	3
Total	41

College of Journalism And Communications

ADVERTISING
BROADCASTING
COMMUNICATION
JOURNALISM
MAGAZINES
PUBLIC RELATIONS
TECHNICAL COMMUNICATIONS
PUBLIC RELATIONS IN CRIMINAL JUSTICE

College of Journalism and Communications

The College of Journalism and Communications provides accredited programs in Advertising, Journalism (News-Editorial), Public Relations, and Radio-Television. It offers curricula leading to bachelor's degrees in three areas: Advertising, Broadcasting, and Journalism. A Public Relations sequence leads to a degree of Bachelor of Science in Journalism. The College also offers programs leading to the master's degree.

The divisions of the College are as follows: Department of Advertising and Public Relations, Department of Broadcasting, Department of Journalism, Graduate Division and Communication Research Center. Sequences are offered in Advertising; broadcast news and public affairs, broadcast production and broadcast management under Broadcasting; reporting, editing, journalism education, magazines and photojournalism under Journalism; magazines, public relations, technical communications and public relations in criminal justice under Public Relations. Programs are available in agricultural journalism, environmental studies, Latin American studies, journalism for teachers and television for teachers.

Students gain practical experience working at the University's radio and television stations, on the college's alumni newspaper, on student publications, on the local daily newspaper, The Gainesville Sun, and/or dozens of internship programs.

Persons specializing in Reporting, Editing, Photojournalism, Journalism Education, Magazines, Public Relations, Public Relations in Criminal Justice, and Technical Communications will take the appropriate sequence in the Bachelor of Science in Journalism program.

Students interested in radio and television will register for the program leading to the degree of Bachelor of Science in Broadcasting. Those wishing Advertising will take the program leading to the degree of Bachelor of Science in Advertising; work in this program includes both the print and electronic media.

SPECIAL PROGRAMS

AGRICULTURAL JOURNALISM: A special program leading to a Bachelor of Science Degree with emphasis on agricultural journalism is available. Interested students should consult with the Technical Communications Adviser and with the Dean of the College of Agriculture. Agriculture students seeking a single course in handling agriculture publicity and news for newspapers, magazines and radio-television are advised to register for Agricultural Communications, AGG 4603.

JOURNALISM FOR TEACHERS: Special training and supervised research are available for journalism teachers and others interested in work at the high school level. Students seeking state certification in Journalism should consult with the Department of Journalism.

TELEVISION FOR TEACHERS: The College offers instruction in the use of television production techniques and their utilization in informational and educational programs. Teachers interested in this program should consult with the Department of Broadcasting.

LATIN AMERICAN STUDIES: Students with a special interest may work for a certificate in Latin American studies. These students should consult with the assistant director of the Center for Latin American Studies; additional information about the program is given in the section titled "Center for Latin American Studies."

ENVIRONMENTAL STUDIES: Students interested in reporting, writing, editing or public relations work with any governmental or private organization dealing with the environment or environmental problems are advised to use their minor requirement to develop an area minor (14 or more semester-hour credits) in environmental studies courses, such courses to be selected from an approved list available from any College adviser.

GRADUATE DEGREE

The College of Journalism and Communications, through the Graduate School, offers a program leading to the degree Master of Arts in Journalism and Communications with a major in communication. Graduate work is offered with specialization in advertising, communication research, international communication, journalism, media management or public relations. Consult the Graduate School catalog.

COMMUNICATION RESEARCH CENTER

For information about research activities and services of the College, please write the Director, Communication Research Center, College of Journalism and Communications, Gainesville, Fl. 32611.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Journalism and Communications encourage applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this college. It should be understood, however, that minimum requirements are given and that admission to this college is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. A student's total record including educational objectives, pattern of courses previously completed, quality of previous academic record, and test data will all be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested.

Lower Division students: To be eligible for admission to the College of Journalism and Communications, a lower division student must have accomplished one of the following:

A. Earned 64 semester hours of acceptable college credit with an overall average of C+ (2.5) or higher on all college level work attempted, or

B. Completed all general education courses required for the desired curriculum as shown in the program for the Freshman and Sophomore years outlined in this catalog, with an overall average of C+ (2.5) or higher on all work attempted.

C. Received the recommendation of the chairman of the department which the student plans to enter and the approval of the dean's office.

Transfer students: To be eligible for admission to the College of Journalism and Communications, a transfer student must satisfy the minimum requirements for admission to an Upper Division College that are set forth in the ADMISSIONS section of this catalog.

Transfer students are advised to note carefully the section headed "Professional Limit," below.

All Students: All students, whether from Lower Division, Florida community or junior colleges, or other four-year institutions, are required to complete, before graduation from the University of Florida, all courses listed under the "Lower Division" curriculum section, including pre-professional courses, or approved equivalents of these courses.

Provisional Admission: Within space limitations, students who do not meet precisely the admission requirements indicated in the appropriate section above may be granted provisional admission to the College of Journalism and Communications by the College's Committee on Admissions. The Dean of the College of Journalism and Com-

munications will specify the courses to be completed and minimum grade points to be earned by the student during the term of his or her provisional admission. Provisional status will be removed and the student fully admitted to the College of Journalism and Communications provided he or she fulfills the conditions set forth in his or her provisional admission. The student will be excluded from further enrollment in the College of Journalism and Communications if he or she fails to satisfy the conditions of his or her provisional admission.

TYPING ABILITY

All students entering the College must be able to typewrite. This ability is needed because many laboratory assignments must be typewritten. Students are expected to type 20 words per minute for MMC 2100; 30 words per minute for selected advanced courses. Students should take tests offered by the college to certify their typing ability before the first lab session

ACADEMIC ADVISEMENT

The College maintains an advising service for students throughout the school year. Advisers in each department will talk with students about any academic matter. Each student, upon admission to the College, is assigned to an adviser for the remainder of his stay in the College. Students may change advisers, if they wish, by consulting the chairman of their department.

The most important fact a student can remember about academic advising is that he or she alone is responsible for earning his or her degree. While the College maintains its academic advisory service, and carefully works to keep accurate records of individual students, the student himself or herself is responsible for meeting all degree requirements.

Therefore, a careful reading of these requirements is advised, and each student is urged to visit his or her adviser at least once each quarter for help in checking on his or her progress.

Students are required to obtain an adviser's approval on all registration and/or drop-add cards in this college. Each student is advised to strictly observe the University's regulation on maximum and minimum course loads each quarter. This college requires each student to carry a minimum of 12 semester hours, unless a waiver is approved by the student's department chairman.

Academic advisement manuals called *Survival books* are available on the four major areas: advertising, broadcasting, journalism, and public relations. These may be purchased at the Hub (book store) for $1.50. They are listed under MMC 2100. Students may write for a copy from the Office of Student Services, College of Journalism, University of Florida, Gainesville, Fla. 32611. Enclose a check for $1.50 made out to the University of Florida Foundation.

MINOR

A portion of the student's elective credit hours in any sequence offered by the College must be chosen from outside the College.

The minor in the College of Journalism and Communications may be elected as (1) 12 hours in one academic department, or (2) an area study of at least 12 hours recommended by the department to meet specific career goals. In either option, 9 of the 12 hours must be at the 3000 level or above, unless they are prerequisites.

SATISFACTORY-UNSATISFACTORY

Undergraduate students in the College of Journalism and Communications may take no courses designated ADV, COM, FIL, JOU, MMC, PUR or RTV under the satisfactory-unsatisfactory (S-U) grade option, except courses which are offered only as S-U.

Students are encouraged to take elective courses S-U outside the College, subject to University rules published in the "Student Regulations" section of this catalog.

While no required course may be taken under the S-U option, courses for minor credit may be taken with the following restrictions (in addition to University restrictions):

1. The option may not be applied to any course below the 3000 level.
2. Not more than three credits of S-U work may be offered in fulfillment of the minor requirement.
3. No basic course (for example, SOC 2000, MAN 3010) may be offered for minor credit under S-U.

PROBATION

The College rules regarding probation are the same as the University's. These rules are described in the "Student Regulations" section of this catalog.

HONORS AND HIGH HONORS

Students achieving an overall grade point average of 3.50 on all work attempted while students in the College of Journalism and Communications will be graduated with honors.

The College Honors Committee will consider awarding high honors to students showing evidence of superior scholarship (at least 3.60 on all work attempted while students in the College of Journalism and Communications) and professional competency. Evidence of scholastic superiority should be supported by at least two letters from former or current instructors.

Evidence of professional competency will be in forms unique to each major area, viz., internships, editorships, journalistic writing, advertising and public relations campaigns, film, television or radio productions, etc.

Students who believe their final grade point average will be at least 3.60 may apply to be considered for high honors at graduation. For specific information, students should confer with their departmental honors adviser. Judgment of evidence submitted will be made by the College Honors Committee in consultation with other pertinent faculty.

REQUIREMENTS FOR DEGREE

To earn a bachelor's degree, a student must:

1. Complete, with passing grades, all courses required by the college faculty and approved by the University.
2. Earn at least 128 credits, part of which may be accepted by transfer from another college or university. The last 30 of these credits must be earned while the student is enrolled in the College of Journalism and Communications and is enrolled in classes at the University of Florida.
3. Earn at least an average of C (2.0) in all work attempted while a student in the College of Journalism and Communications, and at least an average of C in all work attempted in courses having the prefixes ADV, COM, FIL, JOU, MMC, PUR and RTV.
4. Earn a C or better in required English, required speech, Writing for Mass Communication, (or its equivalent), and Introduction to Broadcasting (or its equivalent), when required. Students earning below a C in any of these courses will be required to retake the course or its equivalent.

SECOND DEGREE

Students wishing to specialize in more than one field may earn a second bachelor's degree in this College by completing an additional 30 credits of work, with the necessary qualitative and residence requirements

COLLEGE OF JOURNALISM AND COMMUNICATIONS

PROFESSIONAL LIMIT

The College stresses a broad background in liberal arts and sciences. The student spends about three fourths of his or her time on general background courses. The remaining one fourth involves the development of professional techniques in relation to this background knowledge.

Because the College insists on this broad background of general education, the number of professional credits to be applied toward graduation is limited. The College permits 37 professional credits (ADV, COM, FIL, JOU, MMC, PUR and RTV) to be applied toward graduation. Professional courses as defined by the College and accepted by transfer are counted toward the 37. A student must earn a minimum of 91 hours of non-college of journalism courses as a part of the 128 hours required.

FINANCIAL AID

Students may earn money through undergraduate and graduate assistantships in this College. Undergraduate students may inquire at the office of development; graduate students may inquire at the office of the Graduate Division of this College.

A number of scholarships are available. Information may be obtained from the chairman of the Scholarship Committee of this College.

PROFESSIONAL AND HONORARY ORGANIZATIONS

Five national professional and honorary organizations select members from undergraduates in the College of Journalism and Communications: Society of Professional Journalists; Alpha Delta Sigma, students in advertising; and Kappa Tau Alpha, scholastic honorary for students; the Public Relations Student Society of America sponsored by, and regulated by, the Public Relations Society of America; and Alpha Epsilon Rho, students in broadcasting.

The College is represented in these professional groups: American Association of Schools and Departments of Journalism, National Association of Educational Broadcasters, Broadcast Education Association, Florida Association of Broadcasters, Television Bureau of Advertising, Advertising Research Foundation, Fourth District of the American Advertising Federation, Gainesville Advertising Federation, Television Information Office, Florida Scholastic Press Association, International Association of Business Communicators, Public Relations Society of America, Florida Magazine Association, and Florida Public Relations Assn.

The state headquarters of the Florida Scholastic Press Association is located in the College of Journalism and Communications. The executive secretary of the association is a member of the faculty. A Summer institute for high school journalists is conducted in cooperation with the Division of Continuing Education.

NATIONAL STANDING OF COLLEGE

The College of Journalism and Communications at the University of Florida is the only such college in Florida with four complete programs accredited by the American Council on Education for Journalism. The curricula, faculty, facilities and alumni achievements are evaluated regularly by the ACEJ, whose membership includes the American Society of Newspaper Editors, the American Newspaper Publishers Association, the National Editorial Association, the Inland Press Association, National Association of Broadcasters, journalism educators, and Public Relations Society of America.

LOWER DIVISION CURRICULUM

Listed below are general requirements for all students seeking a degree from the College of Journalism and Communications. It is expected that students will complete, in their first two years, nearly all of the general education requirements and a considerable part of the Basic Distribution and Preprofessional Requirements. The remainder will be completed as early as possible upon admission to the College. A suggested course sequence is provided for the first two years in the lower division section of this catalog. This program can be altered to fit the student's circumstances but students are urged not to delay their foreign language or their quantitative option.

A student must have completed the General Education requirements and have a 2.5 average (C+) to be considered for admission to the College.

For course options other than those listed, consult "Authorized Courses for General Education," located in an early section of this catalog.

General Education Requirements

Courses	Minimum credits
*English (Must include at least two courses in composition and/or writing)	6
Mathematics	3
***Social Sciences and Behavioral Studies	9
The Humanities	9
**Physical Sciences	3-6
**Biological Sciences	3-6

Basic Distribution Requirements

*English	3
Social Sciences	
1. ECO 2013, ECO 2023 (Economics)	3
2. AMH 2010 and AMH 2020 (American History)	6
3. POS 2041 and POS 2112 (Political Science)	6

Preprofessional Requirements

*MMC 2100 Writing for Mass Communication (Student must have a typing proficiency of at least 20 words per minute; student may be exempted from and earn credit for course by passing a proficiency exam in writing given by the College of Journalism)	3
*SPC 3601 Public Speaking (Possible substitute courses if SPC 3601 is not available: SPC 3440; SPC 3513, ORI 2001, or TPP 2700	3-4
One Foreign Language	10
or	
Quantitative Option (Take any combination of the following courses: ACC 2001, ACC 2301, ACC 3123, ACC 3143, STA 3013, or STA 3023, STA 3024, STA 4222 COP 3110, COP 3210, COP 3120	7

For students who elect the foreign language option, the requirement may be met by satisfactory completion of a beginning course sequence in one foreign language (10 semester hours). Students who plan to continue the study of a language which they began at another institution must take a placement test before registering. If the minimum proficiency called for above is demonstrated by examination, this will constitute satisfaction of the foreign language requirement. However, no credit is earned. Consult the appropriate language departmental office for specific examination schedules. Transfer students having fewer than 10 hours of one foreign language may complete the requirement beginning at the point determined by a proficiency test. The student is advised to take the language proficiency examination as early as possible after admission lest a basic course have to be repeated with the result that the student loses credit for prior coursework. The language courses may be taken by the satisfactory-unsatisfactory grading option. Intensive summer study in French and Spanish is available for students who have earned no previous foreign language credit in college.

*Only grades of C or higher are acceptable. Two English composition courses must be included.

**Three hours of credit of either of these areas may be omitted.

***No more than 6 credit hours in one area.

ADVERTISING CURRICULUM

Leading to the Degree of Bachelor of Science in Advertising

Block 1: Required courses

These courses must be completed by all students:

	Credits
ADV 3000 Elements of Advertising	3
ADV 4101 Copywriting and Visualization	3
ADV 4103 Radio TV Advertising	3
ADV 4300 Media Planning	3
ADV 4501 Advertising Research Techniques	3
ADV 4800 Advertising Campaigns	3
MAR 3023 Principles of Marketing	3
MMC 4200 Law of Mass Communication	3

Block 2: Professional Electives (Minimum of three courses required) (8 hours)

ADV 4102 Advanced Copywriting	3
ADV 4200 Advertising Graphics and Production	3
ADV 4400 International Advertising	2
ADV 4600 Advertising Agency Management	3
ADV 4700 Retail Advertising	3
ADV 4905 Individual Problems	1 to 3
ADV 4930 Special Study in Advertising	2 to 3
ADV 4940 Advertising Internship	1 to 3
PUR 3000 Introduction to Public Relations	3
PUR 4103 Business and Technical Communication	3
RTV 3200 Fundamentals of Broadcast Production	3
PUR 4500 Public Opinion Theory and Research	3
ADV 4931 Seminar: Ethics and Problems in Advertising	2
RTV 3403 Mass Media Processes and Effects	3

Any professional work beyond 37 credit hours must be added to the 128 hours required for graduation, unless a student has earned 91 credit hours of non-College of Journalism work.

BROADCASTING CURRICULUM

Leading to the Degree of Bachelor of Science in Broadcasting.

LOWER DIVISION

Courses required in addition to Lower Division and pre-professional courses required of all students:

	Credits
SOC 2000 Principles of Sociology	3
or	
PSY 2013 General Psychology	3
*RTV 2000 Introduction to Broadcasting	3

UPPER DIVISION

These courses must be completed by all students.

	Credits
RTV 3200 Fund. of Broadcast Production	3
RTV 3403 Mass Media Processes and Effects	3
RTV 4931 Seminar: Ethics and Problems in Broadcasting	2
MMC 4200 Law of Mass Communication	3
Total	17

*Only grades of C or higher are acceptable.

The student will choose one of the following areas:

Broadcast News and Public Affairs

	Credits
RTV 3300 Broadcast News Writing	3
RTV 3301 Advanced Broadcast News	3
RTV 4302 TV Reporting	3
JOU 3110 Fact Finding	2
Total	11

Broadcast Production

	Credits
RTV 3100 Broadcast Writing	3
RTV 3221 Advanced Television Production	3
FIL 4202 Cinematography for TV	3
RTV 4500 Broadcasst Program Management	3
Total	12

Broadcast Management

	Credits
RTV 3100 Broadcast Writing	3
ADV 3000 Elements of Advertising	3
RTV 4500 Broadcast Program Management	3
RTV 4800 Broadcast Operations	3
Total	12

In addition to the above requirements, students must take one course in the fine arts, such as ENG 3132, PHI 3800, LIT 4930 (Myth in Film & Lit.), MUL 2011, or THE 2000, and one course in any of the following areas: Education, Statistics, Sociology, Psychology, Marketing, Management, or Meteorology. Specific choices must be approved by a Broadcasting adviser.

Any professional work beyond 37 hours must be added to the 128 hours required for graduation, unless a student has earned 91 credit hours of non-College of Journalism work.

JOURNALISM CURRICULUM

Leading to the Degree of Bachelor of Science in Journalism

UPPER DIVISION

Required of all students:

	Credits
JOU 3110 Fact Finding	2
**JOU 3100 Reporting	3
*JOU 3601 Photographic Journalism I	3
JOU 4104 Public Affairs Reporting	3
JOU 4200 Newspaper Editing I	3
JOU 4700 Problems and Ethics of Journalism in Society	2
JOU 4946 Applied Journalism	3
MMC 4200 Law of Mass Communication	3
*Editing sequence students may substitute JOU 3204 Graphics of Journalism	2
Total	21-22

SPECIALIZATIONS

Student will select one area:

Reporting

Required:	Credits
JOU 4302 Public Opinion and Editorial Analysis	2 or 3
Block 1: Choose One	
JOU 4300 Magazine and Feature Writing	3
JOU 4301 Specialized Journalism	3
Block 2: Choose One	
JOU 4004 History of Journalism	2
JOU 4312 Community Journalism	2
ADV 4500 Public Opinion Theory and Research	3
MMC 4301 World Communication Systems	2
MMC 4420 Applied Research in Mass Communication	2
Reporting Total	28-30*

Editing

Block 1: Required	Credits
JOU 4202 Newspaper Editing II	3
PUR 4103 Business and Technical Communication	3
Block 2: Choose One	
ADV 4500 Public Opinion Theory and Research	3
JOU 4004 History of Journalism	2
JOU 4302 Public Opinion and Editorial Analysis	2
JOU 4312 Community Journalism	2
MMC 4301 World Communication Systems	2

MMC 4420 Applied Research in Mass Communication 2

Editing Total 29-31*

Photojournalism

Required:	Credits
JOU 4603 Photographic Journalism II	3
JOU 4604 Photographic Journalism III	3
Block 1: Choose One	
ADV 4500 Public Opinion Theory and Research	3
JOU 4004 History of Journalism	2
JOU 4302 Public Opinion and Editorial Analysis	2
JOU 4312 Community Journalism	2
MMC 4301 World Communication Systems	2
MMC 4420 Applied Research in Mass Communication	2

Photojournalism Total 30-31*

*Not including 3 credits in MMC 2100.
**Only grades of C or higher are acceptable.

Internships

Many students elect to earn credits by serving internships. Students who plan to seek internship credit are urged to use their elective hours within the college for that purpose. Students are limited to 3 hours of internship and/or co-op work experience credit.

Journalism Education

Students take core courses, an area in methods of teaching journalism, 26 hours of education and a minor in English or speech. Students seeking state certification in journalism should consult with the Department of Journalism.

Any professional work beyond 37 hours must be added to the 128 hours required for graduation, unless a student has earned 91 credit hours of non-College of Journalism work.

MAGAZINES CURRICULUM

Leading to the Degree of Bachelor of Science in Journalism.

PROFESSIONAL COURSES REQUIRED OF ALL MAGAZINES MAJORS

	Credits
JOU 3100 Reporting	3
JOU 4300 Magazine and Feature Writing	3
JOU 3601 Photographic Journalism I	3
PUR 3101 Editing and Graphics	3
or	
JOU 4200 Newspaper Editing I	3
PUR 4103 Business and Technical Communication	3
PUR 4104 Seminar in Magazine Editing	3
MMC 4200 Law of Mass Communication	3
Total	21

PROFESSIONAL ELECTIVES

Minimum of five courses and 11 hours required; one course each from areas 1 and 2; (two from area 3)

Area 1	
ADV 4500 Public Opinion Theory and Research	3
JOU 4302 Public Opinion and Editorial Analysis	2
JOU 4700 Problems/Ethics of Journalism in Society	2
PUR 4933 Seminar: Ethics and Problems in Public Relations	2
Area 2	
ADV 3000 Elements of Advertising	3
RTV 3403 Mass Media Processes and Effects	3
JOU 4004 History of Journalism	2
PUR 3000 Introduction to Public Relations	3
JOU 4312 Community Journalism	2
Area 3	
ADV 4101 Copywriting and Visualization	3
ADV 4300 Media Planning	3
JOU 6112 Investigative Reporting	3
JOU 3110 Fact Finding	2
JOU 4104 Public Affairs Reporting	3
JOU 4301 Specialized Journalism	3
JOU 4304 Photographic Journalism III	3
PUR 4001 Advanced Public Relations	3
JOU 4946 Applied Journalism	3
JOU 4311 Advanced Magazine Writing	2
PUR 4940 Public Relations Internship	1-3
JOU 4940 Journalism Internship	1-3

PUBLIC RELATIONS CURRICULUM

Leading to the Degree of Bachelor of Science in Journalism.

PROFESSIONAL COURSES REQUIRED OF ALL PR MAJORS

	Credits
JOU 3100 Reporting	3
PUR 3101 Editing and Graphics	3
PUR 4500 Public Opinion Theory and Research	3
MMC 4200 Law of Mass Communication	3
JOU 4300 Magazine and Feature Writing	3
or	
PUR 4100 Writing for Public Relations	3
PUR 3000 Introduction to Public Relations	3
PUR 4001 Advanced Public Relations	3
PUR 4103 Business and Technical Communication	3
Total	24

PROFESSIONAL ELECTIVES

A minimum of six hours is required from any combination of courses below.

PUR 4100 Writing for Public Relations	3
PUR 4104 Seminar in Magazine Editing	3
PUR 4402 Public Relations in Criminal Justice	2
PUR 4932 Special Study in Public Relations (rotating topics; prerequisites vary)	2-3
PUR 4933 Seminar: Ethics and Problems in Public Relations	2
PUR 4940 Public Relations Internship	1-3

Or courses from other than Public Relations.

ADV 3000 Elements of Advertising	3
RTV 2000 Introduction to Broadcasting	3
JOU 4300 Magazine and Feature Writing	3
JOU 3600 Survey of Photojournalism	2

Or any course approved by student's adviser.

Any professional work beyond 37 hours must be added to the 128 hours required for graduation, unless a student has earned 91 credit hours of non-College of Journalism work.

TECHNICAL COMMUNICATIONS CURRICULUM

Leading to the Degree of Bachelor of Science in Journalism.

This Curriculum is designed to provide specialists in communications for various technical fields. To fulfill the requirements for this degree, the student must take a core of journalism and other courses, as specified below, and select with the adviser at least 21 semester hours of courses outside of the College of Journalism and Communications in a field of the specialization. The field of specialization is limited to technical areas. The area of specialization must be approved by a journalism adviser and the specialized courses worked out in conjunction with an adviser in the area of specialization. A total of 64 semester hours in the Upper Division is required for the degree.

Courses	Credits
JOU 3100 Reporting	3
PUR 3101 Editing and Graphics	3
JOU 3601 Photographic Journalism I	3
ENC 3352 Technical Writing and Business Communication	2-3

PUR 4500 Public Opinion Theory and Research 3
MMC 4200 Law of Mass Communication 3
JOU 4300 Magazine and Feature Writing 3
PUR 3000 Introduction to Public Relations 3
PUR 4103 Business and Technical Communication 3
*Field of Technical Specialization 21
Electives 16

Total 64

*Fulfills minor requirement. Any professional work beyond 37 hours must be added to the 128 hours required for graduation, unless a student has earned 91 credit hours of non-College of Journalism work.

PUBLIC RELATIONS IN CRIMINAL JUSTICE CURRICULUM

Leading to the Degree of Bachelor of Science in Journalism.

Professional Courses Required of ALL PRCJ Students

Credits

JOU 3100 Reporting 3
PUR 4500 Public Opinion Theory and Research 3
MMC 4200 Law of Mass Communication 3
PUR 3000 Introduction to Public Relations 3
PUR 4001 Advanced Public Relations 3

(Student will elect to complete a Broadcast or Print emphasis.)

Professional Courses Required for
Students Who Desire a **Broadcast** Emphasis

Credits

RTV 2000 Introduction to Broadcasting 3
RTV 3200 Fundamentals of Broadcast Production 3
RTV 3221 Advanced Television Production 3

Professional Courses Required for
Students Who Desire **Print** Emphasis

Credits

PUR 3101 Editing and Graphics 3
JOU 4300 Magazine and Feature Writing 3
PUR 4103 Business and Technical Communication 3

Professional Electives

A minimum of six hours is required from any combination of courses below.

PUR 4100 Writing for Public Relations 3
PUR 4104 Seminar in Magazine Editing 3
PUR 4932 Special Study in Public Relations (rotating topics; prerequisites vary) 2-3
PUR 4933 Seminar: Ethics and Problems in Public Relations 2
PUR 4940 Public Relations Internship 1-3

Or courses from other than Public Relations.

ADV 3000 Elements of Advertising 3
RTV 2000 Introduction to Broadcasting 3
JOU 4300 Magazine and Feature Writing 3
JOU 3600 Survey of Photojournalism 2

Or any course approved by student's adviser.

Any professional work beyond 37 hours must be added to the 128 hours required for graduation, unless a student has earned 91 credit hours of non-College of Journalism work.

CRIMINAL JUSTICE MINOR

All students must complete a minimum of 14 semester hours in an approved Criminal Justice sequence, either at the lower division or upper division level.

Center for Latin American Studies

The Center for Latin American Studies is the University unit responsible for directing and coordinating inter-disciplinary instructional and research programs related to Latin America. It is a budgeted unit within the University and is administered by a director immediately responsible to the President reporting through the Vice President for Academic Affairs.

UNDERGRADUATE PROGRAM IN LATIN AMERICAN STUDIES

For students interested in Latin American Studies, the College of Liberal Arts and Sciences, the College of Agriculture, the College of Journalism and Communications, the College of Business Administration, and the College of Education offer a special curriculum leading to the B.A. or B.S. degree and a Certificate in Latin American Studies. The program is designed to provide a broad cultural base for students who plan to do graduate work in the field or who plan careers with Latin American connections in business, government, or teaching. This course of study is particularly helpful to students interested in teaching about Latin America, in business dealing with Latin America, or positions with the U.S. Government in such agencies as the Department of State, the International Communications Agency, the Department of Commerce, the Department of Labor, and the Defense Department.

The Certificate Program is based on a departmental major leading to the Degree of Bachelor of Arts. In the College of Liberal Arts and Sciences, this major may be selected from the following fields: Anthropology, Economics, Geography, History, Political Science, Sociology and Spanish. Through special arrangements with the College of Agriculture, the College of Journalism and Communications, the College of Education and the College of Business Administration, undergraduates in the departments of those colleges may take sufficient courses in Arts and Sciences to qualify for a B.S. Certificate in Latin American Studies. In all Colleges, the student must fulfill College and Departmental requirements for the B.A. or B.S. degree. In addition, these special requirements exist: (1) The student must include 24 hours of courses with Latin American emphasis. Courses taken within the major may be counted in fulfillment of these requirements, but language courses below the 2000 level may not be counted. (2) In addition to courses in the major, the student must take at least three courses outside of the major as part of the 24 hours. One course must be taken in the social sciences and history; one in literature, music, art, philosophy or the humanities; and one in either of these two course groups or in languages and linguistics or from among a group of professional courses. (3) Each certificate candidate must take the Center's undergraduate interdisciplinary seminar. (4) The student must demonstrate reading and speaking knowledge of Spanish or Portuguese. This last requirement may be satisfied either through course work or examination. The Certificate Program provides for a special concentration in Brazilian Area and Portuguese Language Studies.

All students completing the requirements of the special curriculum in Latin American Area Studies will receive a Certificate. Arrangements may be made so that students undertaking this curriculum, may, if desired, spend one or two terms taking classes at a Latin American University. (See Study in Latin America below.)

Students preferring to major directly in Latin American Studies at the B.A. level may apply to do so under the individual interdisciplinary option available through the College of Liberal Arts and Sciences.

Undergraduates interested in either of these programs should consult with the Program Adviser, Room 319, Center for Latin American Studies, Grinter Hall, and with their departmental academic advisers. Those interested in the individual option of a B.A. major must also consult with the undergraduate office of the College of Liberal Arts and Sciences.

STUDY IN LATIN AMERICA

Agreement between the State University System of Florida and the Universidad de los Andes in Bogota, Colombia, allows students to study abroad for up to one year. The program is administered by the Center for Latin American Studies of the University of Florida.

While enrolled at the Colombian university, students are housed in private Colombian homes. They immerse themselves in the Spanish language and in the day-to-day living experience of Colombian culture. The Universidad de los Andes is organized similar to U.S. universities, and credits are transferrable. Total cost for the program amounts to about the same as would be paid by a student in residence at any university of the State University System of Florida. Interested students should contact the Office of International Studies and Programs, 168 Grinter Hall.

The principal features of the program are:

Length of Program: Interested students may attend an *Intensive Course in Spanish For Foreign Students* from mid June to early August. In addition, they may take two regular semesters in residence, August to December and January through May.

Courses: All credits earned at Universidad de los Andes are transferrable to the Florida institution on the basis of prior approval of student's U.S. adviser or Registrar. Liberal Arts and Sciences majors must have prior approval of the Dean of the College.

Faculty: The greater part of the faculty of Universidad de los Andes have received graduate degrees or training in the United States or other foreign countries.

General Educational Requirements: Applicants should have completed at least 30 hours of college or university work.

Academic Prerequisites: An academic average of 2.5 or better on all work completed at U.S. institutions, over a period of four quarters.

Language Prerequisites: A minimum of two semesters of college level Spanish, completed before departure, or permission of program director.

Tuition: Approximately $360 US for the Summer Intensive Language course and $400 US for each semester.

Housing: While in residence at Universidad de los Andes, U.S. students may be housed in approved private Colombian homes. Cost will be approximately $200 US per month for room, meals and laundry.

Travel Costs: Round trip Miami-Bogota, valid for one year $600. Cheaper group travel rates may be available for Summer Spanish course. APPLICATION DEADLINES, *Two months* prior to departure.

The Center initiated a Portuguese Summer program in Brazil in 1978. The features of this program are identical to those of the one in Colombia. The costs are proportionately higher. The University charges a program fee of $35 for SUS students and $75 for both programs.

OTHER ACTIVITIES

In addition to the Bogota and Brazilian programs, the Center sponsors bi-weekly colloquia, a yearly conference, a major monograph and publications series, a Newsletter, and occasional art exhibits and concerts.

College of Law

THE COLLEGE OF LAW, founded in 1909, began its work in the Thomas Hall Dormitory for men. The Law Building, built in 1914, was one of the first permanent units on the campus. The College was accredited by the New York State Board of Regents in 1917, admitted to membership in the Association of American Law Schools in 1920, and recognized as an approved school by the American Bar Association in 1925.

In February of 1969, the College occupied its new academic building. The academic building, in addition to classroom, courtroom, and administrative space, contains a library housing over 340,000 volumes and over 1,000 legal periodicals.

The curriculum of the College is arranged so that the courses prescribed for the first year assure a sound foundation for further study. A structuring of the second and third years assures that the student will be exposed to a broad course of study.

The goal of the College is to impart a thorough, scientific and practical knowledge of the law, together with an understanding of its role in a democratic society. It aims to develop keen, efficient lawyers who will respect the ideals and traditions of the profession. The policy of the College places emphasis upon practical skills as well as legal theory; problems of the modern world as well as historical perspective; the creative aspects in the drafting of documents as well as in the body of legal doctrines.

The College of Law offers a program leading to the degree of Juris Doctor. Admission is limited to those with a baccalaureate degree from a qualified institution who have achieved a satisfactory undergraduate grade point average and score on the Law School Admission Test (LSAT). All applicants must register with the Law School Data Assembly Service (LSDAS). Both the LSAT and LSDAS are administered by the Law School Admission Services (LSAS) in Newtown, PA. One can obtain the Law School Admission Bulletin with LSAT/LSDAS application from the Admissions Office of the University or the College of Law Administration Office.

The College of Law in conjunction with the Graduate School offers concurrent programs leading to the J.D./M.B.A., J.D./Master of Arts in Regional and Urban Planning, and J.D./Master of Arts in Political Science-Public Administration.

The College also offers a course of instruction leading to the degree of Master of Laws in Taxation. Admission to the Masters program is normally limited to applicants who have attained the first degree in law from a school accredited by the Association of American Law Schools or the American Bar Association, and applicants are selected for admission on the basis of a demonstrated potential for successful completion of the program. In general, the LL.M. degree is earned by full-time study over the course of an academic year.

For further information on admission requirements, courses and programs, write Admissions, 164-C Holland Law Center, Gainesville, FL 32611.

LAW CENTER ASSOCIATION FINANCIAL AID

The College's private alumni association has established a revolving fund to provide low-interest loans to entering students who demonstrate financial need and great promise of academic success. Repayment on these loans may be started up to five years after the recipient's departure from the College, and the total repayment period may be extended to ten years.

Applicants seeking the financial aid described above must participate in the Graduate and Professional School Financial Aid Service (GAPSFAS). [To be eligible to apply for a Merit Loan or Non-resident Tuition Scholarship, an applicant must have an *overall* undergraduate grade point average of at least 3.20 on a 4.0 system, and obtain an averaged LSAT score of 625 or higher. Keep in mind that these are *minimum* criteria. Successful applicants will have superior credentials.] GAPSFAS applications may be obtained by writing to Box 2614, Educational Testing Service, Princeton, N.J. 08540, or the College of Law Administration Office. The GAPSFAS report must be received on or before October 1, for the following Spring entrants and March 1, for the following Fall entrants. Interested minority applicants should communicate directly with the Coordinator of Minority Affairs or the College of Law for information.

College of Medicine

The College of Medicine, a unit of the J. Hillis Miller Health Center, began operations in 1956 and is located on the south end of the campus. This location in direct proximity to University facilities offers many opportunities to engage resources of the University in the educational and investigative programs of the College. For example, there exist joint programs with the Division of Biological Sciences, and the College of Engineering as well as with the other colleges of the Health Center. Also, computational and statistical services are available through University resources.

The College of Medicine is responsible for several major educational programs. Foremost is the four year program leading to the M.D. degree. After graduation the young physicians enter residency programs. Presently, the College of Medicine offers approximately 350 such positions. The basic medical science departments offer the Ph.D. degree in the Medical Sciences with specialization in Anatomy, Biochemistry and Molecular Biology, Immunology and Medical Microbiology, Neuroscience, Pathology, Pharmacology and Therapeutics, and Physiology.

Further training is offered through a number of positions for post-doctoral research fellows in all basic science and clinical departments. The clinical departments conduct frequent seminars as part of their continuing education program for practicing physicians. In addition, some of the clinical departments have assumed responsibility for community medicine programs in communities surrounding Gainesville.

The faculty is dedicated to a teaching program of high quality. Close faculty-student relationship is encouraged by the design of the four year curriculum. The educational program is structured to enable the graduate to choose any career offered in medicine. Therefore, emphasis is placed on understanding of fundamental biological principles, and their relevance for the practice of medicine.

Students intending to apply for admission should complete the requirements for a Bachelor's degree although a limited number of exceptional students may be considered for admission at the end of their third year of college. An applicant to the College of Medicine must have personal qualities of the highest order — character, integrity, intellectual honesty, responsibility, maturity, initiative, and aptitude. In addition, the students must have demonstrated superior intellectual achievement during undergraduate work.

A Junior Honors program exists for undergraduate students who have chosen a career in the medical profession and who have demonstrated both superior scholastic ability and personal development during their first two college years. Students are chosen for the program at the end of their sophomore year. The third year consists of 2/3 arts and sciences and 1/3 college of medicine credit. The latter is offered in a seminar form. Conversely, the fourth year is partitioned into 1/3 arts and sciences — 2/3 college of medicine. Since the College of Arts and Sciences grants academic credit for all of the third year work and part of the fourth year work, a participating student receives a BS degree and completes one year of medical school in a total of four years. Early entry into medically oriented instruction with sensible acceleration of education is obtained without loss of the important components of a broad education. The program is limited in size to 15 students per year in order to retain the discussion seminar format.

Unusually gifted students may enter a combined M.D.-Ph.D. program which offers a unique opportunity of integrating clinical experience with competence in basic biomedical research. This program is a consequence of the dependence of the practice of medicine on scientific advances in the biological sciences.

The Program in Medical Sciences (PIMS), an inter-university approach to medical education, began in 1971 at the Florida State and Florida A&M universities in Tallahassee. In this program the two universities in the state capital have combined efforts to provide instruction in the pre-clinical medical sciences parallel with the first year curriculum of the University of Florida. From among those students accepted into the PIMS Program after satisfactory completion of the required curriculum, an evaluation commitee, with the approval of the College of Medicine Dean, selects those students that may transfer to the University of Florida College of Medicine at the second year level. The remaining three years of medical education are completed at the University of Florida College of Medicine if satisfactory progress is made.

The College of Medicine has responsibility for patient care, teaching and research at the Veterans Administration Hospital located next to the J. Hillis Miller Health Center. A formal affiliation was established with the Jacksonville Health Education Program, Inc. in 1969 for the purpose of providing combined educational and clinical resources. In addition the College is involved in several projects concerned with Community Health Care.

Further detailed information will be found in the College of Medicine or the Graduate School catalogs. Copies may be obtained by writing to the Registrar, University of Florida, Gainesville, Florida 32611.

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College of Nursing

The purposes of the College of Nursing are to conduct undergraduate and graduate degree programs in nursing; to conduct nursing internships and residency programs; to create the structure and climate that will promote collegial relationships within the broad health field; to conduct nursing research; and to conduct continuing education programs in nursing.

The establishment of the College of Nursing within the framework of the J. Hillis Miller Health Center at the University of Florida offers a unique opportunity to provide collegiate and professional development for nursing in a university setting. The Shands Teaching Hospital of the J. Hillis Miller Health Center houses outpatient clinics, an ambulatory unit, a psychiatric unit, and hospital units for seriously ill patients. Other community facilities, such as public health agencies, community hospitals and outreach clinics are also used to prepare students for beginning professional nursing positions. The student has opportunities for supervised observation and practice in selected phases of health care.

The nursing profession applies scientific and humanistic processes to the solving of nursing problems of individuals, families, and communities. The efforts of nursing are teaching, maintaining, environmental supervising and motivating of clients.

The program of the College of Nursing is fully accredited by the National League for Nursing and is approved by the Florida State Board of Nursing. The College is a member of the Council of Baccalaureate and Higher Degree Programs of the National League for Nursing, the Council on Collegiate Education for Nursing of the Southern Regional Education Board, and the American Association of Colleges of Nursing.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Nursing encourage applications from qualified students from all cultural, racial, religious, and ethnic groups.

Preparation for professional practice requires a very careful selection of learning experiences and adequate supervision and guidance. Therefore, applicants are considered by the Admissions Committee as candidates for admission to to the College within established numerical limits.

Listed below are the specific requirements for admission to this College. It should be understood however that minimum requirements are given and that admission to this College is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission.

To be eligible for admission to the College of Nursing, the student must:

1. Satisfy the minimum requirements for admission to a specific College that are set forth in the ADMISSIONS section of the University catalog. 2. Earn at least 64 Semester Hours of acceptable College credit with an overall average of 2.8 or higher on all college level work attempted. 3. Complete all lower division courses indicated in the pre-nursing curriculum for students planning to enter the College of Nursing. 4. Pass all required preprofessional courses at a "C" level or better.

The following information will serve as a guide in expediting entry into the College of Nursing in compliance with the above requirements.

Completed applications, including Transcripts and Information Form, must be received by the College of Nursing. Registrar's Office by April 1 for consideration for admission Fall semester.

Upon receipt of transcripts and application information required by the College of Nursing, all applicants will be individually screened. Applicants may be invited for interviews at the discretion of the Admissions Committee. Factors given consideration in evaluating applicants include: cumulative grade point average; performance in the sciences; extent to which applicant meets or exceeds minimum requirements; extracurricular, civic, military or employment activities; evidence of commitment to the health field; and the ability to communicate in writing.

Those applicants with the highest total rankings are accepted in order until the class quota is filled. If vacancies occur prior to the enrollment date, those next on the list are accepted to fill them.

Only qualified Florida residents and highly qualified non-Florida residents will be considered for admission.

PRE-NURSING CURRICULUM

The following courses must be completed prior to admission to the professional nursing major. The courses or acceptable equivalent may be incorporated in the general education requirements of a community college or university college. (See section on Nursing under College of Liberal Arts & Sciences.)

GENERAL EDUCATION

Courses	Credits
English	3
Social Science	3
Sociology or Cultural Anthro.	3
Biological Science	4
Humanities	9
Behavioral Studies	3
Electives	11
Sub-total	36

*PRE-PROFESSIONAL	
Microbiology	4
**Human Nutrition	3
Developmental Psych. or Human Growth & Development	3
Human Anatomy (must include lab)	3
Human Physiology (must include lab)	3
Expository Writing	3
Statistics	3
Chemistry	6
Sub-total	28
Total	64

*Pre-Professional courses may not be met by CLEP.

**Human Nutrition may be taken by correspondence, final grade must be received by the College of Nursing four weeks prior to registration for the Nursing Curriculum.

ACADEMIC ADVISEMENT

Academic advisement is available for those students interested in professional nursing as a career. As soon as nursing is a definite career choice, the student may request such advisement by contacting the College Registrar.

REGISTERED NURSE STUDIES

Registered Nurses are eligible to apply for admission to the College of Nursing. They must complete all prerequisites but admission alternatives are available.

Registered Nurse applicants with a 3.0 (B) or above who have satisfied 48 Semester Hours of the requirements for admission to the College may request provisional admission status by the College of Nursing to complete the remainder of the required prerequisite courses at the University of Florida. Registered Nurse students may continue in provisional admission status provided one course per semester is satisfactorily completed. Entry into clinical courses requires the completion of all prerequisites. A current Florida Registered Nurse license is required.

The College of Nursing Registrar will advise all registered nurse applicants regarding required coursework and placement. Credit by exam will be available for specified Nursing courses.

Information regarding curriculum alternatives for Registered Nurses may be obtained from the office of the Registrar of the College of Nursing.

STUDENT EVALUATION — STUDENT DEVELOPMENT COMMITTEE

At the end of each academic quarter or when otherwise deemed appropriate in individual cases, the College of Nursing Student Development Committee will meet to review each student's academic and professional record and/or status. Following a complete review of the records, the Committee will recommend appropriate action to the Dean. In reviewing each student's performance, the Committee shall utilize the following guidelines deemed essential to the maintenance of a student's good standing:

(A) Any grade of "C" or above shall be considered passing.

(B) A student may repeat up to 12 credit hours of Nursing course. A course may be repeated only once. Any student who earns more than 12 hours of unsatisfactory work (below "C") will be dismissed.

(C) Breaches of professional conduct as outlined in the Florida Nurse Practice Act, failure to meet any conditions on performance set by the Student Development Committee or the College, and offenses involving moral turpitude, will subject a student to College action including, in appropriate cases, warning, probation (with or without conditions), suspension and/or permanent dismissal from the College. These actions will be taken in addition to any disciplinary action taken by the University of Florida under its Student Conduct Code.

(D) The Student Development Committee will notify the student in writing of all proposed adverse actions which the Committee feels are appropriate.

(E) Any student has the right to request a meeting with the Student Development Committee within 10 days after receiving written notification of the proposed action to discuss the basis for the recommendation. Following this review or in the absence of such a request, the Committee shall forward its proposed action to the Dean.

(F) The Dean of the College will review all recommendations and take final action.

REQUIREMENTS FOR DEGREE

To be eligible for the degree Bachelor of Science in Nursing the student must:

1. Satisfactorily complete all courses required by the College faculty and approved by the University.
2. Earn at least 131 credits hours, 67 of which must be upper division.
3. Complete the work of the upper division with an overall 2.0 grade point average or better.
4. Earn a grade of "C" or better in each nursing course.
5. Complete the achievement exams during Senior Year.
6. Be in good conduct standing and not subject to any sanction by the Student Development Committee of the College of Nursing or the University of Florida which would be inconsistent with graduation.

The faculty will recommend to the Dean those students who have satisfactorily met College requirements and are eligible for graduation.

GRADUATION WITH HONORS

Superior students may be recommended for graduation with Honors. Nomination and selection of students will be made by the Honors/High Honors Sub-committee. Excellence of different types and varied fields will be considered, such as superior academic work, outstanding student research, and other special achievements.

RESIDENCE REQUIREMENT

The College of Nursing complies with the requirements for residency as stated in the section — Student Regulations Degrees and Graduation, University of Florida catalog.

LICENSURE

Upon satisfactory completion of the program, the graduate will be awarded the degree of Bachelor of Science in Nursing and is then eligible for the Florida State Board of Nursing examination for state licensure as a Registered Professional Nurse.

HEALTH POLICIES

The College of Nursing requires the student to have specified immunizations and health screening tests periodically. These requirements are subject to change depending upon current knowledge and practice relating to health care. An annual health examination is required.

Each student registered in clinical nursing courses is expected to have adequate hospitalization insurance. Students eligible for the health insurance plan sponsored by the Student Government may purchase it at the time of registration.

UNIFORM INFORMATION

In order to participate in the activities of the first clinical course, all nursing students will be required to have a name pin, white uniform, College of Nursing Emblem for uniform, white nursing shoes, bandage scissors, a watch with a second hand, a stethoscope, and a pen light. More detailed uniform information is sent upon admission.

EXPENDITURES

The student is referred to the section in the University of Florida catalog for information about expenses.

Other expenditures include the items listed under Uniform information. Some nursing courses require experience away from campus. For such courses, the student will need to provide transportation. Achievement exams during Senior Year are required and are paid for by the student. Professional liability insurance is required for selected experiences.

CURRICULUM

The Nursing program is four years in length. During the first two years at another institution or in Liberal Arts and Sciences, instruction is centered around the comprehensive courses to give the student a full, rich background for citizenship and professional career.

The Nursing major involves professional experience in a variety of clinical settings for in-patient and out-patient care of individuals. These experiences include community health agencies, hospitals, primary service institutions and homes. Nursing courses involve extensive classroom activities correlated with supervised observation and practice in the understanding, prevention, maintenance, and curative processes of health care.

Sample Curriculum Plan "A"

FALL SEMESTER

Course	Credit
NUR 3060 Dynamics of Human Behavior 1	4
NUR 3610C Nursing Process 1	8
NUR 3223 Professional Socialization 1	2

SPRING SEMESTER

NUR 3061 Dynamics of Human Behavior 2	4
NUR 3611C Nursing Process 2	8
NUU 4300 Nursing Research	3

SUMMER SEMESTER

No Classes

FALL SEMESTER

NUR 4500 Health Problems 1	6
NUR 4631C Nursing Process 3	8
NUU 4223 Professional Socialization 2	2

SPRING SEMESTER

NUR 4501 Health Problems 2 4
NUR 4632C Nursing Process 4 8

SUMMER SEMESTER

NUR 4633C Nursing Process 5 8
NUU 4224 Professional Socialization 3 2

Total Curriculum Requirements 67
General Education 36
Preprofessional Education 28
Grand Total Credits 131

Sample Curriculum Plan "B"
FALL SEMESTER

Course	Credit
NUR 3060 Dynamics of Human Behavior 1	4
NUR 3610C Nursing Process 1	8
NUU 3223 Professional Socialization 1	2

SPRING SEMESTER

NUR 3061 Dynamics of Human Behavior 2 4
NUR 3611C Nursing Process 2 8

SUMMER SEMESTER

NUU 4223 Professional Socialization 2 2
NUU 4300 Nursing Research 3

FALL SEMESTER

NUR 4500 Health Problems 1 6
NUR 4631C Nursing Process 3 8

SPRING SEMESTER

NUR 4501 Health Problems 2 4
NUR 4632C Nursing Process 4 8

SUMMER SEMESTER

NUR 4634C Nursing Process 5 8
NUU 4224 Professional Socialization 3 3

Total Curriculum Requirements 67
General Education 36
Preprofessional Education 28
Grand Total Credits 131

HONORARY ORGANIZATIONS
SIGMA THETA TAU, INC.

Sigma Theta Tau, Inc. is the only national Honor Society of Nursing in the United States. Constituent chapters, such as Alpha Theta Chapter at the University of Florida, are established in collegiate schools of nursing accredited by the National League for Nursing. Sigma Theta Tau Inc. is professional rather than social, and its purposes are: to recognize the development of leadership qualities; to foster high professional standards; to encourage creative work; and to strengthen commitment on the part of individuals to the profession of nursing. Members are chosen for this organization primarily on the basis of scholastic average and leadership ability.

COLLEGE OF NURSING STUDENT COUNCIL

The Nursing Student Council works cooperatively with the faculty and students of the College of Nursing on matters which involve the nursing faculty and student body. The council functions are: (1) to serve as a two-way channel of communication between faculty and students; (2) to act as a review committee to appoint student representatives to the faculty-student committees; (3) to serve as a fact-finding body for matters of concern relating to the students of the College of Nursing; and (4) to organize and promote College of Nursing social functions. Council representatives are elected from each class every September.

STUDENT NURSES' ASSOCIATION OF FLORIDA (SNAF)

The Student Nurses' Association of Florida (SNAF) is a preprofessional organization designed to orient the nursing student to eventual membership and participation in the professional organization, the American Nurses' Association.

Some of the projects undertaken by SNAF include: (1) resource assistance for state board examinations; (2) participation in community and charitable projects; (3) recruitment and orientation of prospective nursing students to this program; (4) participation in various interests in the College of Nursing affecting the student body as a whole; and (5) gathering information regarding pending legislation affecting the nursing profession.

SNAF is organized and implemented by nursing students, and its success depends entirely on active participation and membership of all nursing students.

STUDENT FINANCIAL AID

Information relating to sources of financial aid as well as information relating to student employment may be obtained from the University Office of Student Financial Affairs.

Additional information relating to financial aid may be obtained from the office of the Dean of the College of Nursing.

GRADUATE STUDIES

The College of Nursing Offers the Master of Nursing (nonthesis) and the Master of Science in Nursing (thesis) degrees. Areas of specialization include Women-Infant Health Care, Child Health Nursing, Family Health Nursing, Adult Health Care, and the functional areas of teaching, administration, and clinical specialization.

Consult the Graduate School catalog.

MEDICINAL CHEMISTRY
PHARMACY
PHARMACY PRACTICE

College of Pharmacy

BACHELOR OF SCIENCE IN PHARMACY

GENERAL STATEMENT

The College of Pharmacy offers a three year professional program leading to the Bachelor of Science in Pharmacy. The College also offers postbaccalaureate M.S. and Ph.D. graduate programs in the pharmaceutical sciences, and a professional two year postbaccalaureate program leading to a Doctor of Pharmacy degree.

In today's practice of pharmacy, the pharmacist is more closely associated with patient care than ever before. Pharmacists serve on city, county, and state health councils, advise the public on matters of health and disease, assist the physician in matters relating to drug use, participate in the detection and reporting of adverse drug reactions and counsel patients in community or hospital pharmacies, neighborhood health centers, nursing homes and extended care facilities. In addition to preparing and dispensing medications, pharmacists serve as a prime source of information on health related subjects. Those entering the field can expect unlimited diverse career opportunities to serve on the modern day health care team. Excellent opportunities exist in community, hospital, research, manufacturing, teaching and governmental areas of pharmacy.

The baccalaureate curriculum in pharmacy of 94 semester hours is designed to provide the graduate with the scientific and cultural background required for the successful practice of Pharmacy. Areas of emphasis in the curriculum are pharmaceutics, medical chemistry, pharmaceutical biology, pharmacy health care administration and pharmacy practice. Upon completion of formal course work in the College, students complete a 400 hour clerkship and fulfill their internship requirements in a practice environment between the first and second professional years and during the third professional year. The professional program also provides an excellent base for advanced study leading to careers in research and teaching.

The educational program in pharmacy is divided into two phases: (1) The preprofessional curriculum and (2) the professional curriculum. The requirements of the preprofessional phase can be completed at any accredited four-year institution or community college of the student's choice prior to entering the College of Pharmacy. Students choosing to matriculate at a college other than the University of Florida for prepharmacy studies should consult the College of Pharmacy section of Florida's Undergraduate Catalog to make certain all requirements for admission will be met.

The College of Pharmacy is located in the J. Hillis Miller Health Center Complex which includes the College of Dentistry, Health Related professions, Medicine, Nursing, Veterinary Medicine, and Shands Teaching Hospital and clinics. In this environment the pharmacy student has an excellent opportunity to learn and work with other health professionals. The College is accredited by the American Council on Pharmaceutical Education and is a member in good standing of the American Association of Colleges of Pharmacy.

Students in the College of Liberal Arts and Sciences who plan to major in pharmacy are urged to contact the Office for Student Affairs of the College of Pharmacy for advisement and literature describing the opportunities in Pharmacy.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Pharmacy encourage applications from qualified students from all cultural, racial, religious and ethnic groups. Listed below are the specific requirements for admission. Admission to this College is a selective process; therefore, meeting the minumum requirements for admission does not automatically guarantee acceptance. Through the Admissions Committee, the College of Pharmacy selects eligible applicants on an annual basis.

March 1 of the year the student wishes to enter is the deadline for submitting the completed application to the University Registrar. Because of the large number of applications, the College of Pharmacy reserves the right to refuse consideration of any application for admission received by the Registrar after the deadline. All applications received by this date will be reviewed and given careful consideration.

The Admissions Committee of the Office for Student Affairs will consider such factors as educational objectives, adequacy of prerequisites, student performance and academic record, completion of the recommended prepharmacy program in the normal period of time, motivation for scholarly achievement and a career in the profession, test data, interview evaluation, and the student's personal record.

Students demonstrating evidence of academic excellence, a strong motivation for a career in the pharmacy profession and an acceptable interview evaluation will be given priority for admission. Applicants whose qualifications clearly indicate that they will not be selected will be notified at the earliest possible date.

Since only one sequence of the required professional courses is offered each year, admission of new students to the College of Pharmacy is limited to the fall semester. An applicant who is not selected should notify the University Registrar, Admissions Section, in writing if he wishes to be considered for admission for the following academic year.

All applicants are required to take the Pharmacy College Admission Test (PCAT). Requests for information and an application form to take the PCAT should be directed to: Pharmacy College Admission Test, The Psychological Corporation, 304 East 45th Street, New York, New York, 10017. Examinations are held on a Saturday three times a year, usually the second week in November, February, and May. For applicants residing in Florida, the test may be taken in Gainesville, Miami, Tallahassee, or Tampa. Students taking the PCAT should request that scores be sent to Dr. Richard H. Hammer, Assistant Dean, Office for Student Affairs, College of Pharmacy, University of Florida, Gainesville, Florida 32610.

Although the PCAT is given three times a year, it is important that students take the November test, and no later than in February, if application for admission is being made for the following fall semester. Application to take the November test must be submitted to The Psychological Corporation by early October. PCAT scores must be sent to the College of Pharmacy as soon as possible to prevent delays, since interviews of applicants start in January or earlier.

Applicants having a Bachelor of Pharmacy or Bachelor of Science in Pharmacy degree received in a foreign country, seeking admission to obtain the B.S. degree in Pharmacy as a post-baccalaureate student for purpose of state board of pharmacy examinations are required to take the PCAT. Applicants whose degree was obtained in a non-English speaking country must submit satisfactory scores on the TOEFL (Test of English as a Foreign Language) and the TSE (Test of Spoken English). The completed application together with PCAT, TOEFL and TSE scores must be submitted to the Office of the Registrar by May 1.

Lower Division Liberal Arts and Sciences Students: To be eligible for admission to the College of Pharmacy the applicant must have: (1) earned at least 64 semester hours of acceptable college credit with an overall average of "C" or higher on all college level work attempted; (2) completed all lower division courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the College of Liberal Arts and Sciences section of this catalog; and (3) passed all required preprofessional courses within the lower division curriculum.

Transfer Students: To be eligible for admission to the College of Pharmacy, a transfer student must satisfy the minimum requirements for admission to an Upper Division Col-

lege that are set forth in the ADMISSIONS Section of this catalog. Additionally, the applicant must satisfy the following specific requirements for admission to the College of Pharmacy: (1) The applicant must have completed the courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the College of Liberal Arts and Sciences section of this catalog or their equivalent; and (2) passed all required preprofessional courses with an overall average of "C" or higher. The following conditions will serve as a guide in expediting transfer to the College of Pharmacy in compliance with the above requirements.

A. Students attending four-year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the Basic Curriculum for the Freshman and Sophomore Years for students planning to enter the College of Pharmacy as outlined in the College of Liberal Arts and Sciences section of this catalog.

B. Junior College Students Should:

1. Complete the two-year college parallel program at the junior college.
2. Satisfy the general education requirements established for the junior college.
3. Complete the following prerequisites:
   a. A one-year program in general chemistry
   b. A one-year program in organic chemistry
   c. A one-year program in physics
   d. One-year program in the biological sciences
   e. A mathematics program through the first course in calculus
   f. One course in basic economics

ORIENTATION

All new entering students starting the fall semester in August are required to attend a three day pharmacy orientation which will be held during the week prior to the beginning of classes.

RESIDENCE REQUIREMENT

In keeping with the requirements for accreditation, all students expecting to earn the degree of B.S. in Pharmacy must be enrolled in one or more pharmacy courses for a minimum of six semesters. This regulation applies regardless of the number of studies completed in other fields.

REQUIREMENTS FOR GRADUATION

The Degree of Bachelor of Science in Pharmacy is awarded on completion of the curriculum as outlined. In order to graduate, (a) a student must have at least an overall 2.00 grade point average for all courses taken while enrolled in the College of Pharmacy, and (b) he must also have a minimum 2.00 grade point average in all required basic courses in the pharmacy curriculum exclusive of electives.

GRADUATION WITH HONORS

To be considered for graduation with Honors, a student must not have less than a 3.20 grade point average in all courses completed in the College of Pharmacy.

To graduate with High Honors, a student must not have less than a 3.50 grade point average and be recommended for graduation with High Honors by the faculty.

CURRICULUM

To be eligible for the degree of Bachelor of Science in Pharmacy all requirements of the curricula for pharmacy students in both the College of Liberal Arts and Sciences (64 cr.) and the College of Pharmacy (94 cr.) must be completed. The professional sequence of courses (Required-78 cr., Electives-16 cr.) is on an annual basis beginning only in August each year. Students transferring to Pharmacy should contact the Office for Student Affairs, College of Pharmacy, J. Hillis Miller Health Center. All entering students will be required to complete the basic courses listed below.

In 1984, the College of Pharmacy, with Board of Regents approval, will initiate a 4 year entry level program leading to a Doctor of Pharmacy degree (Pharm.D.). Students beginning prepharmacy in 1982 will be the first class to enter under the new entry Doctor of Pharmacy degree program in 1984.

The elective courses will comprise 16 credits of which 12 credits must be selected from the Approved Electives List and the remainder selected from all offerings by the student.

The curriculum for the three professional years is as follows:

PROFESSIONAL CURRICULUM

FIRST PROFESSIONAL YEAR

Fall Semester	Credits
PHA 3110C Pharmaceutics 1	3
BCH 4313 Biochemistry 1	3
PHA 3710 Pharmacy Calculations	1
PHA 3411 Analytical Pharmaceutical Chemistry	3
PHA 3630C Externship 1	2
PHA 3631C Externship 2	2
[a]Electives	2-3
	16-17

Spring Semester	
PHA 3111C Pharmaceutics 2	3
BCH 4203 Biochemistry 2	3
PHA 3501C Anatomy-Physiology	6
PHA 3020 Microbiology	3
PHA 3412L Analytical Pharmaceutical Chemistry Lab	1
[a]Electives	1
	17

Summer Semester
[b]Internship

SECOND PROFESSIONAL YEAR

Fall Semester	
PHA 4120 Pharmaceutics 3 (Biopharmaceutics)	3
PHA 4560 Disease Processes	3
PHA 4516 Pharmacology 1	4
PHA 4350 Medicinal Chemistry 1	3
PHA 4232 Pharmacy Law	3
	16

Spring Semester	
PHA 4103C Pharmaceutics 4 (Dispensing)	3
PHA 4517 Pharmacology 2	3
PHA 4435 Medicinal Chemistry 2	3
PHA 4211 Pharmacy Management	3
[a]Electives	5
	17

[c]THIRD PROFESSIONAL YEAR

Summer Semester	
PHA 4436 Medicinal Chemistry 3	3
PHA 4602 Therapeutics	5
PHA 4769 Non-Prescription Products	2
[a]Electives	5-8
	15-18

Fall-Spring Semesters	
[d]PHA 4632C Clerkship	10
[b]Internship	
Total:	94

During the three years in the professional curriculum each student must complete 16 credits in elective courses in a

program designed by the student to meet individual objectives. Of the 16 credits 12 must be selected from the Approved Electives List. The remainder may be selected by the student from all offerings except those courses prerequisite to required courses in the College or prepharmacy program.

[b]Internship

Internship is required for licensure and though the College supervises it in conjunction with the Florida Board of Pharmacy, no academic credit is given for internship. Students are required to complete 1100 hours of internship (in two blocks of ten weeks each) and may be required to fulfill their internship in cities other than Gainesville at their own expense. Internship must be completed within the guidelines of the Florida Board of Pharmacy as set forth in Rule Chapter 21S-1.

[c]All students are required to take PHA 4632 Clerkship and intern[b] during the third professional year.

[d]Clerkship

During the third professional year of study each student is required to complete an intensive full-time clerkship under the supervision of the Pharmacy Practice faculty. This course is offered in affiliated institutions and pharmacies in Gainesville and outside the Gainesville area. Students may be required to complete the clerkship at off-campus sites at their own expense.

GRADUATE DEGREES

The College has two departments within its Pharmaceutical Sciences Program; the Department of Pharmacy and the Department of Medicinal Chemistry. Both offer graduate education leading to the Master of Science in Pharmacy and Doctor of Philosophy degrees in Pharmaceutical Sciences. Also within the Department of Pharmacy, a graduate program in Pharmacy Health Care Administration offers graduate studies leading to a Master of Science or a Doctor of Philosophy degree. Baccalaureates with majors in pharmacy, chemistry, biology and allied sciences are encouraged to apply.

A number of specialized areas within the two departments are offered. Pharmacy offers concentration in pharmaceutics and/or bio-pharmaceutics; pharmaceutical product development; synthetic medicinal drugs; analytic pharmaceutical chemistry; pharmaceutical biology, pharmacy health care, and hospital pharmacy administration. Medicinal Chemistry offers concentration in synthetic medicinal drugs; natural products — isolation, identification, synthesis and medicinal uses; design and synthesis of prodrugs; drug metabolism, drug toxicology, and analysis.

For additional information on graduate degrees in Pharmaceutical Sciences, see the Graduate School Catalog and consult with the Graduate Studies Coordinator for Pharmaceutical Sciences, College of Pharmacy, Room P-103, J. Hillis Miller Health Center.

DOCTOR OF PHARMACY

All professions involved in today's health care system are experiencing radical changes in their methods of providing service and in the philosophy accompanying their professional activities. Pharmacy is no exception. The advances being made in pharmaceutical sciences, the voluminous quantities of new literature concerning drugs, and an increasing awareness of adverse drug reactions, drug interactions, and iatrogenic diseases resulting from drug therapy have created a demand for an individual who possesses a high degree of expertise in the area of drug therapy.

The goal of the University of Florida's program is to develop drug therapy practitioners who will have the knowledge, clinical experience, and communicative skills necessary to respond to these needs and demands of the evolving health care system.

REQUIREMENTS FOR ADMISSION

The Doctor of Pharmacy Program is a two year post-baccalaureate program offered by the College of Pharmacy. Applications are encouraged from qualified individuals from all cultural, racial, religious, and ethnic groups. Applicants will be considered who have completed four years of the five year pharmacy curriculum, or who have been awarded a Bachelor of Science in Pharmacy degree from a college of pharmacy accredited by the American Council on Pharmaceutical Education. Admission to the Doctor of Pharmacy program is a selective process; thus, meeting the minimum requirements for admission does not automatically guarantee acceptance. Due to limitations of faculty and facilities, a quota for admission of new students was established. The quota is currently set at twelve new students annually.

Applications, transcripts, and application fee must be submitted to Coordinator, Pharm. D. Program, Box J-4, College of Pharmacy by January 15 of the year the student plans to enter the May entering class. All applications received by this date will be carefully reviewed by the Selection Committee. This office will provide a copy of the completed application to the Office of the Registrar, University of Florida.

Letters of recommendation, a curriculum vitae, and a statement of professional goals must be submitted together with the completed application. An interview is required of those applicants meeting the minimum standards of the Selection Committee. The following criteria are used in considering applicants for admission: academic record, letters of recommendation, experience, motivation, and personal interview. Individuals with a strong academic background, a record of active involvement in pharmacy, definite professional goals, and motivation for patient care will be given priority for admission.

Since only one sequence of courses is offered annually, admission of new students is limited to the summer semester which starts in May. Denied students wishing to reapply for the following year should notify the Pharm.D. coordinator, and in addition, request a supplemental application form by writing to the coordinator of the Pharm.D. program. There is no charge for re-applying.

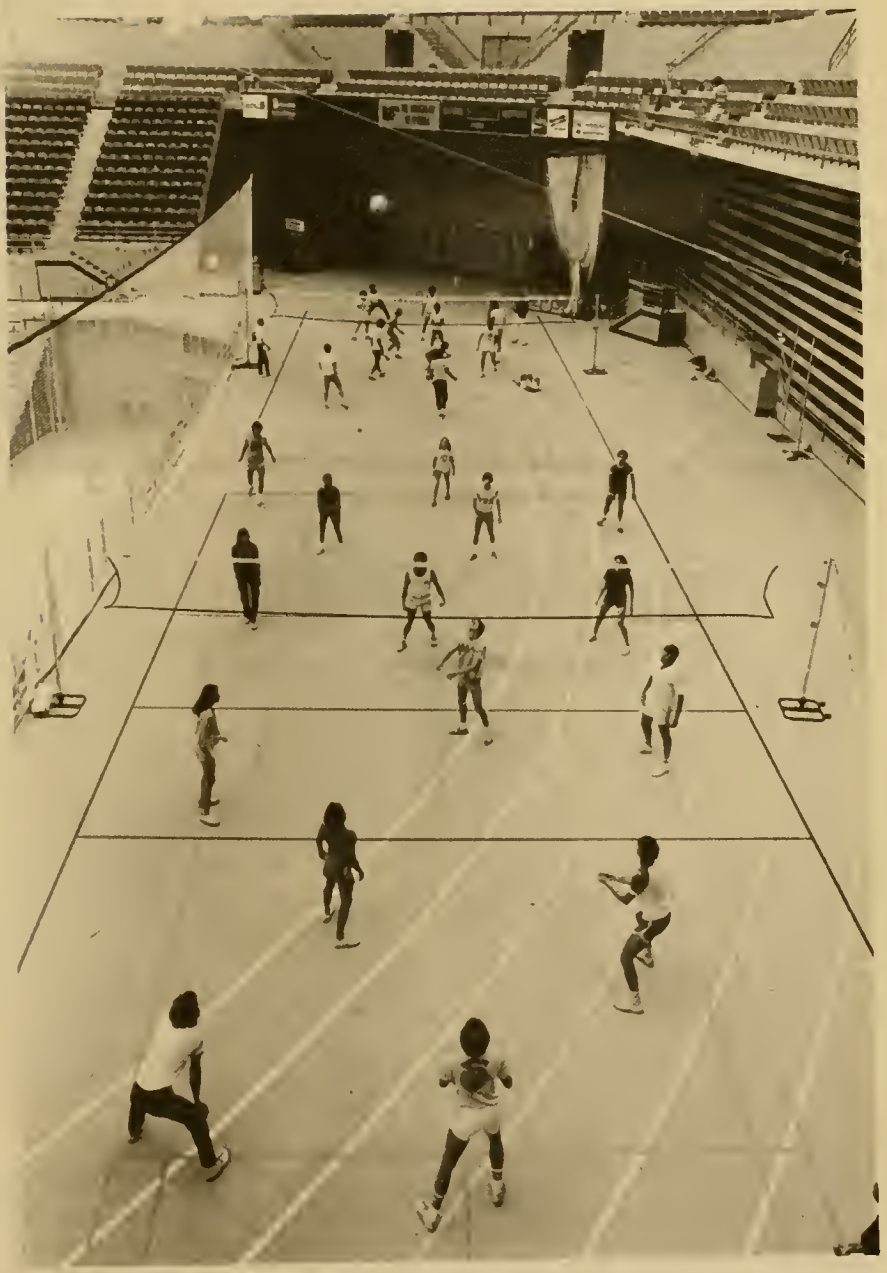
As partial fulfillment of the requirements for the Pharm.D. degree, the student must complete an individual research project by the end of his clinical clerkship. The project must be creative and innovative in some area of clinical patient care. The research study must be presented to the student's supervisory committee for approval and must be written in a format suitable for publication.

Further details, information and applications can be obtained by writing to the Coordinator, Doctor of Pharmacy Program, College of Pharmacy, Health Center, University of Florida, Gainesville, Florida 32610.

The Doctor of Pharmacy program consists of two years of study. The first year is devoted to didactic course work in which the student is required to take 32 cr. hours of required subjects. Elective coursework, while not required, is available through the College of Pharmacy, Medicine, Nursing and Health Related Professions.

The second year comprises various fields of clinical experience. This phase of the Pharm.D. Program provides clinical clerkship over one calendar year. The clinical experiences are arranged on a rotating basis whereby the student participates in various patient care areas, such as: internal medicine, pediatrics, psychiatry, clinical pharmacokinetics, parenteral nutrition, and chronic care/ambulatory patient care. In addition, the student is permitted to select several rotations in patient care areas. The student is supervised by a faculty member in all of the rotational clinical experiences. During these experiences, the student participates and cooperates with physicians and other health professionals.

College of Physical Education, Health and Recreation



PROFESSIONAL PHYSICAL EDUCATION
HEALTH EDUCATION AND SAFETY
RECREATION
GENERAL PHYSICAL EDUCATION

College of Physical Education, Health, and Recreation

GENERAL STATEMENT

The College of Physical Education, Health, and Recreation offers undergraduate and graduate degree curricula as well as other programs of instruction and services through its four departments, namely: Professional Physical Education, Health Education and Safety, Recreation, and General Physical Education.

The requirements of the undergraduate degree curricula are organized on the basis of the Lower Division and the Upper division. Basic requirements of each curriculum available to students in the Lower Division are listed in the University College section of this catalog.

UNDERGRADUATE DEGREES

Courses of study leading to three undergraduate degrees are offered: Bachelor of Science in Physical Education, Bachelor of Science in Health Education, and Bachelor of Science in Recreation.

A student is required to complete (1) one of the curricula offered in this College; (2) all Upper Division courses with a minimum grade point average of 2.0; (3) 131 semester hours for the four-year period wih an average of 2.0 or higher; and (4) the course requirements in the major field with an average of 2.0 or higher.

In addition to completing the above requirements the student is expected to participate in extracurricular activities. Experience shows that men and women are called on to perform many and varied services in their respective schools and communities. Participation in extracurricular activities while in college contributes substantially to the success of persons entering the profession. Information concerning this expectation may be secured from the student's adviser.

REQUIREMENTS FOR ADMISSION

The University of Florida and the College of Physical Education, Health, and Recreation encourage applications from qualified students from all cultural, racial, religious, and ethnic groups. Listed below are the specific requirements for admission to this college. It should be understood, however, that minimum requirements are given and that admission to this college is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. A student's total record including educational objectives, pattern of courses previously completed, quality of previous academic record, and test data will all be considered in evaluating an application for admission. Priority in admission will be given to those applicants whose potential on the basis of their total record indicates the greatest likelihood of success in the program requested.

University College Students: To be eligible for admission to the College of Physical Education, Health, and Recreation, a University College student must have: (1) earned at least 64 semester hours of acceptable college credit with an overall average of "C" or higher on all college level work attempted. (2) completed as many as possible of the lower division courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the University College section of this catalog.

Transfer Students: To be eligible for admission to the College of Physical Education, Health, and Recreation, a transfer student must satisfy the minimum requirements for admission to an Upper Division College that are set forth in the ADMISSIONS Section of this catalog. Additionally, the applicant must satisfy the following specific requirements for admission to the College of Physical Education, Health, and Recreation. The applicant should have completed the courses required for the desired curriculum as indicated in the program for the Freshman and Sophomore years in the University College section of this catalog or their equivalent. The following conditions will serve as a guide in expediting transfer to the College of Physical Education, Health, and Recreation in compliance with the above requirements.

A. Students attending four year colleges, who wish to transfer after two years, should follow a program of general education and preprofessional courses similar to the Basic Curriculum for the Freshman and Sophomore Years for students planning to enter the College of Physical Education, Health, and Recreation.

B. Community College students should:

1. Complete the two-year college parallel program at the community college. This should include completion of:
   a. general education requirements
   b. elective courses which provide introduction to the fields of physical education, health education or recreation
   c. a course in public speaking
   d. courses, if available, which deal with the development of basic skills and provide instruction in organizing and teaching these activities.
   e. skill courses in tennis, golf, swimming, gymnastics if majoring in physical education; tennis, golf, swimming if majoring in recreation; a chemistry course if majoring in health education
2. Become actively involved in extracurricular actitivies in order to develop competencies and to gain experience in a wide variety of activities relating to the professional field of choice.
3. Consider becoming qualified to teach or work in a second field and select elective work in the area.
4. Take 3000 level courses in professional education and professional physical education, health, or recreation when enrolled at the University of Florida.

Provisional Admission: Within space limitations, students who do not meet precisely the admission requirements indicated in the appropriate section above may be granted provisional admission to the College of Physical Education, Health, and Recreation by the Committee on Admissions. The conditions of provisional admission will include specific courses to be completed and minimum grade points to be earned. Provisional status will be removed and the student fully admitted to the College of Physical Education, Health, and Recreation provided the conditions set forth in the provisional admission are fulfilled. Failure to satisfy the conditions of the provisional admission will result in denial of subsequent enrollment in the college.

ACADEMIC ADVISEMENT

Students planning to major in any program of study in the College of Physical Education, Health, and Recreation should consult with the academic adviser in the respective department which offers the appropriate degree program.

While each department maintains an academic advisory service the student is responsible for meeting all degree requirements.

Students are required to obtain an adviser's approval of all registration and/or drop-add cards in this college.

ADMISSION TO ADVANCED PROFESSIONAL SEQUENCE

Students majoring in Physical Education or Health Education are required to take specified courses in the College of Education. The catalog description of programs in the College of Education should be consulted for prerequisites for

admission to the advanced professional course sequence in that college. Clearance for permission to register in these courses is administered by the undergraduate academic counselors in Physical Education and Health Education.

TEACHERS' CERTIFICATES

Certification to teach in the schools of Florida is granted by the State Department of Education under regulations established by the State Board of Education. These regulations are fully described in a bulletin issued by the State Department of Education. A copy of this bulletin is available to any student in the office of his adviser. The student is expected to familiarize himself with these requirements.

STUDENT TEACHING AND INTERNSHIP PROGRAM

Students enrolled in Physical Education, Health Education, and Recreation curricula offered in this College are required to register for the appropriate student teaching or internship program for one term during their Senior year. They will be expected to live in the community in which they serve their internship or student teaching.

RESEARCH

In order to better carry out its role in research, the College of Physical Education, Health, and Recreation conducts, coordinates, and encourages research through a research committee. This committee is ordinarily composed of faculty members actively engaged in research activities. The facilities of the research laboratory are available to faculty members as well as to graduate and undergraduate students in the College. Further information may be obtained from the Chairman, Research Committee.

GENERAL REGULATIONS

University Student Regulations: The STUDENT REGULATIONS section of this Catalog contains information of essential importance to all students. The regulations cover such points as (1) degree and graduation regulations; (2) maximum and minimum loads; (3) grades and averages; (4) probation, suspension and exclusion for academic reasons; (5) withdrawals; (6) absences or unsatisfactory work; (7) classification of students; and (8) petitions and appeals.

Student Responsibility: The student must assume full responsibility for registering for the proper courses and for fulfilling all requirements for his degree. The faculty and the student's adviser will assist and counsel, but the student must take the initiative and assume responsibility for meeting all requirements.

The student's program of studies is subject to the approval of his adviser and the department chairman of the student's major field. A student majoring in Physical Education or Recreation who has skill deficiencies may be required to take courses to remove the deficiencies.

Each student is responsible for completing all courses for which he is registered. Courses may be dropped or changed without penalty only through the approval of the student's adviser.

Seniors must file formal application for degree in the Office of the Registrar no later than the deadline date published in the Calendar.

College Probation: Students who fall below a 2.0 average are placed on College Probation. If normal progress toward graduation is not accomplished, further registration in the Upper Division of this college may be denied.

Student Petitions: If a student believes that the College regulations work a peculiar hardship or injustice in his case, he may petition for waiver of the regulation involved. Information on the procedure to be followed in submitting such petitions may be secured from the student's adviser.

Uniforms: In order to participate in sports activities required in the professional program, all physical education major students will be required to purchase a prescribed uniform. Men's and women's uniforms have the emblem which designates the College of Physical Education, Health, and Recreation classification. Uniforms may be purchased from the campus bookstore. Uniform policies are subject to review and are approved by students and faculty before changes are made.

Expenditures: The student is referred to the section in this catalog under Fees for information about expenses. In addition, some courses require experience away from the campus. For such courses, the student will need to make provisions for transportation. One course PEO 2031 Recreational Sports, requires payment of a nominal fee for use of bowling facilities. Students must provide their uniforms, including swimming suits, for activity courses.

GRADUATION WITH HONORS AND HIGH HONORS

Determination of eligible candidates for Honors or High Honors is the responsibility of the College Undergraduate Committee. Eligibility is based on grade point average in the Upper Division, but also requires recommendation by the college faculty.

Graduation with Honors — To graduate with Honors, a student must have earned a grade point average of 3.4 or higher for all Upper Division courses.

Graduation with High Honors — To graduate with High Honors, a student must have earned a grade point average of 3.7 or higher for all Upper Division courses.

The student must have completed at least 64 semester hours of credit work in residence at the University of Florida, including a minimum of 54 semester hours of letter grade courses carrying Upper Division credit, exclusive of internship and student teaching. Credit earned through correspondence or extension courses shall not be included in computing grade point averages.

GRADUATE DEGREES

Courses are offered by this College in the Graduate School leading to the degree of Master of Physical Education, the degree of Master of Arts in Physical Education, the degree of Master of Health Education, and the degree of Master of Arts in Health Education. Admission and degree requirements for graduates of accredited institutions are described in the Graduate School catalog.

PROFESSIONAL PHYSICAL EDUCATION

CURRICULUM IN PROFESSIONAL PHYSICAL EDUCATION

Students majoring in any degree program in Professional Physical Educations must complete the General Education requirements, the Pre-Professional requirements, and the General Professional Physical Education Core requirements.

Student are required to have an indepth physical examination by the end of the first semester of enrollment in the Professional Physical Education Program. An EKG is to be included as recommended by a physician.

Students majoring in Professional Physical Education receive the Bachelor of Science in Physical Education degree with or without teacher certification by meeting the requirements outlined in I or II.

*GENERAL EDUCATION REQUIREMENTS

	Credits
Social Sciences	
POS 2041 American Federal Gov't. or POS 2112 American State and Local Gov't	3
SSI American Institutions	3

Behavioral Studies
PSY 2013 General Psychology 3
Biological Science
APB Biological Sciences (APB 2150, Biological Science Cell and Organism Biology) 3
English (ENC 1419, ENC 1170) 6
Humanities
HUM 2210 Western Humanities 3
HUM 2230 Western Humanities 3
HUM Humanities 3
Mathematics
MAC 1132 Algebra-Trig. 4
Physical Sciences
ISC Fundamentals of Physical Sciences 3
ISC Fundamentals of Physical Sciences 3

Total 37

*Substitute course list is available through the Academic Counseling Office in Physical Education.

PRE-PROFESSIONAL REQUIREMENTS

	Credits
PET 3320 Applied Human Anatomy	2
PET 3320L Applied Anatomy Lab	1
PET 3350 Applied Human Physiology	2
PET 3350L Applied Physiology Lab	1
HES 2000 Personal and Family Health	3
HES 2400 First Aid & Personal Safety	2
SPC 3601 Public Speaking or SPC 2300 Introduction to Speech Communication	4
Total	15

If the student has completed these courses, the courses may meet general education requirements related to the minimum hours to be accepted into upper division.

GENERAL PROFESSIONAL PHYSICAL EDUCATION CORE

	Credits
PEP 2131 Weight Training & Conditioning	2
PET 3590C Professional Seminar in P.E.	2
PET 3127 American PE & Sport	3
PET 3340C Kinesiology of Motor Skills	2
PET 3360C Physiology of Exercise and Training	2
PET 3230C Skill Acquisition and Motor Development	3
PET 3640C P.E. for the Handicapped	3
PET 4415 Administration of P.E.	2
PET 4510C Measurement and Evaluation with Lab	3
PET 4622C Prevention and Care of Athletic Injuries	3
Total	25

I. Teaching Degree Program in Physical Education

This program will lead to the degree Bachelor of Science in Physical Education with teacher certification. The student may choose to utilize this program as a foundation for graduate study in the areas of administration, curriculum and instruction. To obtain this degree the student must complete the General Education requirements, the Pre-Professional requirements, the General Professional Physical Education Core requirements, the Professional Physical Education Teaching Core, and the Professional Education Core. The student must also select either the Elementary School or the Secondary School Specialization.

PROFESSIONAL PHYSICAL EDUCATION TEACHING CORE

	Credits
PEO 1011C Team Sports I or PEO 3621C Team Sports II	3
PEP 1301C Track and Field Teaching Methods	2
PEQ 1121C Aquatics Teaching Methods	2
PEP 2201C Gymnastics Teaching Methods	2
PET 3461C Elementary Physical Education	3
PET 4442C Physical Education in the Secondary School	3
Total	15

PROFESSIONAL EDUCATION CORE

	Credits
EDF 3110 Human Growth and Development	3
EDF 3604 Social Foundations of Education	3
EDE 4203 Elementary School Today	3
ESE 4011 Secondary School Today	3
ESE 4943 Student Teaching	10
Total	22

A. Elementary School Specialization

This curriculum is designed to prepare specialists in Elementary School Physical Education with certification for grades K-12. Courses required in this specialization are:

DAE 3370 Introduction to Movement Education, K-5 3
PEO 3041C Games and Sports for Elementary School Children 3
PEP 3203C Educational Gymnastics for Elementary School Children 3

Total 9

B. Secondary School Specialization

This curriculum is designed to prepare specialists in Middle School and High School Physical Education with certification in grades K-12. Courses required in this specialization are:

DAE 2360 Folk, Social and Aerobic Dance 3
PEO 2031C Recreational Activities I or PEO 2032C Recreational Activities II 3
PEP 2401C Combatives Teaching Methods or DAE 2320 Modern Dance Teaching Methods 2-3

Total 8 to 9

II. Applied Careers in Exercise and Sport in Physical Education

This program is designed to prepare students as specialists in one of the following areas: Physical Fitness Specialists, Athletic Training, Physical Education for the Handicapped, Sports Administration and Coaching, Exceptional Child Physical Education Specialists, Pre-School and Post-School Physical Education Specialists, Scientific Graduate School Preparatory Program, and Aquatic Concentration. Selection of one of these areas will lead to the degree Bachelor of Science in Physical Education without teacher certification. To obtain this degree the student must complete the General Education requirements, the Pre-Professional requirements, the General Professional Physical Education Core and the Professional Physical Education Core. Elective hours may be selected from courses offered at the University of Florida with the approval of the faculty adviser and the chairperson of the Department of Professional Physical Education. The student must also select one of the Applied Physical Education Careers Programs or the Scientific Graduate School Preparatory Program outlined in A through F below.

PROFESSIONAL PHYSICAL EDUCATION CORE

	Credits
PEP 1301 Track & Field Teaching Methods	2
PEQ 1121C Aquatics Teaching Methods	2
PEP 2201C Gymnastics Teaching Methods	2
DAE 2360C Folk, Social and Aerobic Dance	3
*Electives in Professional P.E. Courses	6
*Additional hours in General Phys. Educ. Department of Jr. College Transfer or Professional Phys. Educ. Department	4
PET 4948C Practicum in P.E.	10
Total	29

*Those students pursuing the Aquatics Concentration area (F below) should refer to the list of additional Professional Physical Education courses required.

Alternatives to the CORE courses listed above must be approved by the Academic Adviser or the Department Chairperson.

APPLIED CAREERS IN EXERCISE AND SPORT

A. Physical Fitness Specialist
(Choose 10 credits from numbers 1-7 below).

1. COP 3110 Introduction Comp. Program 2
2. COP 3212 Comp. Program Fortran 2
3. PHY 2050 General Physics I & Lab 3
4. HUN 2201 Fundamentals of Nutrition 3
5. CHM 1020 Chemistry and Society 3
6. CHM 1021 Chemistry and Society 3
7. APB 2150 Biological Science, Cell and Organism Biology 3
8. Professional Physical Education Department Courses (Choose any 12 credits not in required cores).

B. Scientific Graduate School Preparatory Program
(Choose 10 credits from numbers 1-8 below).

1. COP 3110 Introduction Comp. Program 2
2. COP 3212 Comp. Program Fortran 2
3. PHY 2050 General Physical I & Lab 3
4. HUN 2201 Fundamentals of Nutrition 3
5. CHM 2040 Introduction to General Chemistry 3
6. CHM 2041 General Chemistry 3
7. APB 2150 Biological Science, Cell and Organism Bilology 3
8. STA 3023 Introduction to Statistics I 3
9. Professional Physical Education Department Courses (Choose any 12 credits not in required cores).

C. Athletic Administration
(Choose 10 credits from numbers 1-8 below).

1. PET 3202 Foundations and Principals of Coaching 2
2. PET 4413 Administration of Athletics 2
3. PET 6416 Problems in Administration of Athletics 3
4. PET 4943C Practicum of Coaching 2
5. ECO 2013 Basic Economics 3
6. MAN 3010 Principals of Management 3
7. MAN 4310 Problems in Personnel Management 3
8. BUL 4101 Business Law 3
9. Professional Physical Education Department Courses (Choose any 12 credits not in required cores).

D. Athletic Training
(Choose 10 credits from numbers 1-7 below).

1. PET 3202 Foundations and Principals of Coaching 2
2. PET Coaching Elective 2
3. PET Coaching Elective 2
4. PET 4413 Administration of Athletics 2
5. PET 6416 Problems in Administration of Athletics 3
6. HUN 2201 Fundamentals of Human Nutrition 3
7. PET 4905C Practicum in Athletic Training ..... 1 to 5

(Additional requirement in clinical experience is required prior to student taking NTA examination — usually 600 hours — may not be available to all students at this university. Students expecting to complete this program should begin in their Freshman year at the University of Florida).

8. Professional Physical Education Department Courses (Choose any 12 credits not in required cores).

E. Physical Education for the Handicapped
(Choose 10 credits from 1-7 below).

1. PEQ 2126 Instructors of Swimming for the Handicapped 2
2. EEX 3010 Principals and Practices for Teaching Exceptional Children 3
3. EMR 3011 The Mentally Retarded Child 3
4. EPH 4033 Issues in the Education of Children with Multiple Handicaps 3
5. DEP 3003 Development Psychology 3
6. DEP 4204 Psychology of Exceptional Children 3
7. PET 4905C Directed Independent Study ..... 1 to 10
8. Professional Physical Education Department Courses (Choose any 12 credits not in required cores).

F. Aquatic Concentration
Required Courses: (9 hrs.)

1. PET 4943C Practicum in Coaching (Aquatics) 2
2. PEQ 3108 Aquatic Administration 2
3. PEQ 3109 Aquatic Management 3
4. PEQ 2115 Water Safety Instructor 2

(Students demonstrating the required competencies or certifications in any of the above sources may substitute another course upon the approval of the Program Director).

Elective Courses: (22 hrs.)
(Choose 10 credit hours from 1-7)

1. PEQ 2126C Instructors of Swimming for the Handicapped 2
2. EEX 3010 Principles and Practices for Teaching Exceptional Children 3
3. RMI 3015 Risk and Insurance 3
4. MAN 3010 Principles of Management 3
5. HUN 2201 Fundamentals of Human Nutrition 3
6. PEQ 2141C Coaching Synchronized Swimming 2
7. PEQ 3124C Coaching Swimming 2

(Choose 12 credit hours from 8-15)

8. PEN 1136C Skin and Scuba Diving 2
9. PEN 2141L Synchronized Swimming 1
10. PEN 1251L Canoeing 2
11. PEN 2231L Sailing 2
12. PEN 1151L Springboard Diving 1
13. PEN 2122L Aerobic Swimming 2
14. PEQ 3108L Swimming Pool Operators Certification 1
15. PEQ 3161 Aquatic Games Teaching Methods 2

III. Non-Degree Studies through Physical Education

The Department of Professional Physical Education offers areas of study in Coaching and Dance. These are non-degree programs.

A. Coaching of Competitive Sports

This concentration is designed to prepare students from any discipline for full or part time careers in coaching or athletic administration. Consult an academic adviser or the Department Chairperson or prerequisites in selected courses. The student is required to complete the following courses:

	Credits
PET 3127 American P.E. and Sport	3
PET 3202 Foundations and Principles of Coaching	2
PET 3340C Kinesiology of Motor Skills	3
PET 3360C Physiology of Exercise and Training	3
PET 3230C Skill Acquisition and Motor Development	3
PET 4416 Administration of Athletics	2
PET 4622C Prevention and Care of Athletic Injuries	3
PET 4943C Practicum in Coaching (may be repeated for a total of 6 hours)	2-6
*Elective in Coaching (see below)	4
Total	25-29

*Coaching Electives. The student must select 4 credits from the following:

PEO 3124C Coaching Golf	2
PEO 3214C Coaching Softball	2
PEO 3219C Coaching Baseball	2
PEO 3324C Coaching Volleyball	2
PEO 3344C Coaching Tennis	2
PEO 3514C Coaching Soccer	2
PEO 3624C Coaching Basketball	2
PEO 3644C Coaching Football	2
PEP 3204C Coaching Gymnastics	2
PEP 3304C Coaching Track and Field	2
PEP 3424C Coaching Wrestling	2
PEQ 3124C Coaching Swimming	2

B. Teaching of Dance

The Departments of Professional Physical Education and the Department of Theatre offer an area of study in the teaching of dance which is available to students majoring in any discipline. The student is required to complete 6 to 8 hours in courses related to technique and performance. A minimum of two semesters of dance technique at the appropriate level must be chosen from the recommended courses. Courses appropriate for this area of study may be

obtained from the Academic Adviser for the Department of Professional Physical Education.

HEALTH EDUCATION AND SAFETY

CURRICULUM IN HEALTH EDUCATION

Completion of this program leads to the Degree Bachelor of Science in Health Education. Opportunities are available for concentration in one or more areas in health education, each of which constitutes a Departmental Certificate Program.

The curiculum is designed to prepare students for a variety of health career opportunities, according to the area(s) of concentration selected. Students are prepared to serve as health education specialists in existing and emerging positions with governmental, municipal, industrial and commercial, pharmaceutical, voluntary health, and health care delivery organizations. Completion of any concentration area with inclusion of a teaching credential also prepares students to serve as teachers of health and related life sciences in schools and colleges; and as coordinators of school health programs. Many different bases of employment for health educators require completion of the teaching credential.

All students must take the basic skills examination offered through the College of Education. Students must complete the General Education CORE (41 cr.), and the Professional Health Education CORE (90 cr.), both of which are outlined below.

ETA SIGMA GAMMA

Eta Sigma Gamma is a national professional honorary for men and women who are dedicated to teaching, research, and service in and for health education. Applications for membership may be secured from the Chairman of the Department.

GENERAL EDUCATION CORE

	Credits
ENG/ENC English	6
MAC or MGF Mathematics	3
SSI Social Sciences	6
HUM Humanities	9
PSC Physical Sciences	3
CHM Chemistry	3
APB Biological Sciences	7
SPC Oral Communication	4
Total	41

PROFESSIONAL HEALTH EDUCATION CORE

	Credits
APB/PET Biological Sciences	10
Required Related Areas	9
HES Health Content and Program	23
HES Elective Health Content	8
EDF Professional Education	6
*HES/ESE Student Teaching/Community Health Education Internship	16
Concentration Area(s)	18
Total	90

*Allowed according to completion of appropriate concentration area(s).

Concentration Areas

Each student must complete at least one of the concentration area Certificate Programs described in the following paragraphs. Choices may be made from a number of interdisciplinary and Departmental courses. Checklists of recommended and required courses for each concentration area are available from the academic advisers.

I. COMMUNITY HEALTH EDUCATION. Concentration in community health education directed toward special target groups or special health needs and problems of the public. Credits are selected from health sciences dealing with community health (physical, social, and biological), and from the special skills of health education.

II. SCHOOL AND COMMUNITY HEALTH EDUCATION. Concentration in school health as well as community health. The internship provides practice teaching and public health education experience, to prepare the health educator to teach in schools or to work in community agencies or organizations. This is an NCATE accredited program. Credits are selected from health sciences and from professional education.

III. PATIENT HEALTH EDUCATION. Concentration in health education for patients and their families in health care delivery settings. Credits are selected from aspects of health care, communication in the health care setting, and social factors and issues in health and illness.

IV. ENVIRONMENTAL HEALTH AND SAFETY EDUCATION. Concentration in environmental health education directed toward problems and issues which occur in various settings. Credits are selected from environmental health sciences, and from the special skills of health education.

V. WELLNESS. Concentration in directing preventive health education programs designed to encourage personal responsibility in health. This will prepare the health educator to work in employee and corporate assistance programs.

VI. HEALTH OCCUPATION EDUCATION. The program is designed for allied health personnel who have associate degrees in specific areas of health technology. The emphasis is in community college health occupations education.

Suggested Sequence of Program Requirements

FRESHMAN YEAR

	Credits
ENC/ENG English	6
HUM The Humanities	3
SSI Social Sciences	6
APB Biological Sciences	3
PSC Physical Sciences	3
MAC or MGF Mathematics	3
SPC Oral Communication	4
HES 2000 Personal and Family Health	3
Total	31

SOPHOMORE YEAR

	Credits
HUM The Humanities	6
CHM Chemistry	3
SOC 2000 Principles of Sociology	3
PSY 2013 General Psychology	3
APB Biological Sciences with Laboratory	4
APB Microbiology	4
HES 2001 Community and Environmental Health	3
HES 3404 Instructors First Aid	3
*Electives for concentration area(s)	5
Total	34

*Choices may be made from a number of interdisciplinary courses. See academic advisers for checklist of courses and acceptable substitutes within the concentration areas.

JUNIOR YEAR

	Credits
EDF 3110 Human Growth and Development	3
EDF 3604 Social Foundations of Education	3
HES 3934 Seminar in Health Education	1
HES 3144 Medical Terminology	2
HES 3431 Safety Education	2
PET 3320 Applied Human Anatomy w/lab.	3
PET 3350 Applied Human Physiology w/lab.	3
STA 3013 Statistics for Social Science	3
Elective Health Sciences	4
*Electives for concentration area(s)	8
Total	32

SENIOR YEAR

	Credits
HES 4945 Health Counseling and Public Health Field Experience	4
HES 4302 Methods and Materials in Health Education	3
HES/ESE Student Teaching/Community Health Education Internship	15
*Concentration area requirements	6
Health content electives	4
Total	32

*One or more concentration areas for Health Education must be selected. Choices may be made from a number of interdisciplinary courses. See academic advisers for checklist of courses and acceptable substitutes within each concentration area.

Sample Suggested Course Sequence for the First Two Years

FRESHMAN YEAR

	Credits
ENC/ENG English	3
SSI Social Sciences	6
MAC or MGF Mathematics	3
APB Biological Sciences	3
Total	15
ENC/ENG English	3
HUM The Humanities	3
PSC Physical Sciences	3
SPC Oral Communication	4
HES 2000 Personal and Family Health	3
Total	16

SOPHOMORE YEAR

	Credits
HUM The Humanities	3
APB Biological Sciences with Laboratory	4
CHM Chemistry	3
PSY 2013 General Psychology	3
HES 3404 Instructors First Aid	3
Total	16
HUM The Humanities	3
APB Microbiology	4
SOC 2000 Principles of Sociology	3
Electives	3
HES 2001 Community Environmental Health	3
Total	16

RECREATION

The Department of Recreation grants the degree, Bachelor of Science in Recreation with an emphasis in either Public or Therapeutic Recreation. The upper division undergraduate professional education curriculum provides opportunities for development of knowledge and skills which are necessary for the effective delivery of leisure services.

Policies regarding the requirements and responsibilities for admission to the program and completion of the degree are set forth in the introductory section for the College of Physical Education, Health, and Recreation in this catalog. General Education requirements and course substitutions are specified in the University College section of this catalog.

I. Curriculum with an emphasis in Public Recreation Leading To a Degree of Bachelor of Science in Recreation

This curriculum is designed to prepare students to become leaders or directors of community recreation, industrial recreation, summer camps, playgrounds, youth organizations, or Air Force, Navy and Army recreation activities.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
Activity Requirement (one Racquet and one Team Sport)	2
*ENC English Composition	6
HES 2400 First Aid	2
Social Science (American, State and Local Government)	3
PSC/APB Physical Science/ Biological Science	6
HUM Humanities	3
SOC 2020 Social Problems or SOC 3110 Urban Sociology	3
MGF Fundamental Mathematics	3
LEI 2023 Foundations of Leisure Services	2
Electives	3
	33

*Must earn a grade of "C" or better in six hours of English composition.

SOPHOMORE YEAR

	Credits
Activity Requirements (one Aquatics and one other Individual Sport)	2
PSC/APB Physical Science/ Biological Science	3
BES Behavioral Studies	3
*SPC 3601 Public Speaking	4
HUM Humanities	6
SSI Social Science	3
PSY 2013 General Psychology	3
ENC 3352 Technical Writing in Business	2
LEI 3140 Philosophy and History of Recreation	2
Electives	3
	31

*SPC Public Speaking is not required if a competency exam, administered by the Department of Recreation, is passed.

JUNIOR YEAR

	Credits
EDF 3110 Human Growth and Development or PCO 3714 Personal Growth	3
MAR 3023 Principles of Marketing or ECO Basic Economics I	3
LEI 3320 Leadership and Social Recreation	3
LEI 3400 Recreation Programs	3
LEI 3508 Sports Activities: Administration and Programming	2
LEI 3540 Management of Leisure Facilities	3
LEI 3520 Supervision of Leisure Facilities and Personnel	2
LEI 3600 Planning and Maintenance of Leisure Facilities	2
LEI 3921 Field Experience in Leisure Services	3
PEQ 3109 Aquatic Management	3
LEI 3180 Current Trends in Leisure Services	3
*LEI 3191 Seminar in Leisure Services	1
LEI 3820 Leisure Education and Counseling	2
Electives	2
	35

*Must be taken the first semester upon officially entering the Department.

SENIOR YEAR

	Credits
LEI 4500 Administration of Leisure Services	3
LEI 4700 Leisure Services for Special Populations	3
LEI 4880 Evaluation of Leisure Services	2
PAD 4003 Introduction to Public Administration	3
LEI 4570 Revenue Resource Management	3
LEI 4331 Camp Administration and Programming	2
LEI 4940 Internship in Leisure Services	12
Electives	4
	32

II. Curriculum with an emphasis in Therapeutic Recreation Leading to a Degree of Bachelor of Science in Recreation.

This curriculum is designed to prepare students to become leaders or directors of therapeutic recreation, recreation for

the aged, recreation for deviant persons, and for other exceptional groups.

Suggested Course Sequence

FRESHMAN YEAR

	Credits
Activity Requirements (one Racquet and one Team Sport	2
*ENC English Composition	6
HES 2400 First Aid	2
SSI Social Science	6
PSC/APB Physical Science/Biological Science	6
HUM Humanities	6
MGF Fundamental Mathematics	3
Electives	3
	34

*Must earn a grade of "C" or better in six hours of English composition.

SOPHOMORE YEAR

	Credits
Activity Requirement (one Aquatics and one other Individual Sport	2
PSC/APB Physical Science/Biological Science	3
BES Behavioral Studies (BES 2121)	3
HUM Humanities	3
PSY 2013 General Psychology	3
*SPC 3601 Public Speaking	4
HES 3114 Health Education and Medical Terminology	2
PET 3320 Applied Human Anatomy	3
ENC 3352 Technical Writing in Business	2
LEI 2023 Foundations of Leisure Services	2
LEI 3140 Philosophy and History of Recreation	2
Electives	2
	31

*SPC Public Speaking is not required if a competency exam, administered by the Department of Recreation, is passed.

JUNIOR YEAR

	Credits
EDF 3110 Human Growth and Development or PCO 3714 Personal Growth	3
PPE 3004 Psychology of Personality	3
EAB 4704 Introduction to Applied Behavioral Analysis (or acceptable substitute)	3
PET 3640 Physical Education for the Handicapped	3
LEI 3320 Leadership and Social Recreation	3
LEI 3400 Recreation Programs	3
LEI 3540 Management of Leisure Facilities	3
LEI 3521 Supervision of Leisure Facilities and Personnel	2
LEI 3921 Field Experience in Leisure Services	3
LEI 3180 Current Trends in Leisure Services	3
*LEI 3191 Seminar in Leisure Services	1
LEI 3820 Leisure Education and Counseling	2
Electives	3
	35

*Must be taken the first semester upon officially entering the Department.

SENIOR YEAR

	Credits
LEI 4500 Administration of Leisure Services	3
LEI 4700 Leisure Services for Special Populations	3
LEI 4880 Evaluation of Leisure Services	2
LEI 4711 Program Planning and Evaluation in Therapeutic Recreation	3
LEI 4760 Leisure, Recreation and the Older Adult	3
LEI 4770 Leisure Services for the Social Deviant	3
LEI 4940 Internship in Leisure Services	12
Electives	2
	31

GENERAL PHYSICAL EDUCATION

The Adapted Program

Students with physical limitations or deviations who are designated by the Department of Student Health, will be assisted in selecting an activity commensurate with their physical limitations.

The General Program

All courses offered by the Department of General Physical Education (excluding those requiring a prerequisite) are available to any student; students may elect to take any course under the satisfactory-unsatisfactory option.

The Aquatic Specialist Program

Because of the demonstrated need for aquatic specialists in Florida, the Department of General Physical Education has initiated an Aquatic Specialist Certification program. Successful candidates will be issued a certificate and card upon completion of the competency based program. Proof of competency may be substituted in lieu of academic credit.

Course	Credit
PEN 2113 Advanced Life Saving (ARC)	2
*PEQ 2115 Water Safety Instructor (ARC)	2
*PEQ 3109 Aquatic Management	3
*HES 2400 First Aid (ARC Standard)	2
(Four Courses Required)	
PEN 1251 Canoeing	1
PEN 2231 Sailing	2
PEN 1135 Skin and Scuba Diving	2
PEN 2141 Synchronized Swimming	1
PEN 1151 Springboard Diving	1
PEQ 2126 Instructors of Swimming for the Handicapped	2
PEQ 3124 Coaching Swimming and Diving	2
PEQ 2141 Synchronized Swimming	2
Total Credit Hours	22

*Required Courses

College of Veterinary Medicine

The College of Veterinary Medicine, newest of six colleges which constitute the J. Hillis Miller Health Center, was authorized by the Florida Legislature in 1965. In 1971, following the appointment of a Dean, an active planning program for the college was initiated in cooperation with an existing university committee. Construction of the Veterinary Medical Teaching Hospital commenced in the Spring of 1975 and of the Basic Science Building in December, 1975; both buildings were completed in the Fall of 1977. Forty students were admitted to the first entering class (1976); since then eighty students have been admitted each year.

THE PROFESSIONAL COLLEGE

Florida's College of Veterinary Medicine is concerned with the total health of all members of the animal kingdom, including man. Today's society expects the modern veterinarian to serve the needs of the public in a variety of significant ways. A few examples are: the practice of preventive medicine in relation to both human and animal health, solution of agricultural and wildlife problems, humane care of companion animals, research on diseases of animals, provision of wholesome food, etc. Therefore, the College of Veterinary Medicine offers unlimited opportunity for young men and women interested in medicine and the well being of animals.

GOALS

Basic goals of the college are:

1. To educate the veterinarian trained for specific needs of Florida. Elective educational tracks include: comparative medicine, food animal medicine, epidemiology and public health, laboratory animal medicine, aquatic medicine, environmental medicine, equine medicine, urban medicine, and general veterinary practice.

2. To perform research on the devastating subtropical animal diseases that must be controlled in order to provide wholesome food for our nation and the developing countries.

3. To provide a biomedical investigational resource of animal disease models with human counterparts. This referral center includes metabolic and infectious diseases.

4. To provide a Veterinary Medical Center necessary for the training of interns, residents and graduate students, and for continuing education of practitioners.

5. To provide an active referral and extension program designed for the veterinary medical profession, state and federal agricultural and public health agencies, and consumers of food and health services.

MEANS TO THE GOALS

The design of the college curriculum identifies the expanding horizons of the ever increasing domain of veterinary medicine. The curriculum provides for a 8 semester program consisting of a core curriculum and an elective track. The core will provide the body of knowledge and the skills that are common to all veterinarians. Although the first 5 semesters will relate primarily to the basic medical sciences, students will be introduced to physical diagnosis, radiology, and clinical problems as early as the first quarter of the first year. The core will also include experience in each of the clinical areas (clerkships) as well as provide a sound foundation in the basic sciences. The elective tracks will permit the student to study in depth those aspects of both basic and clinical veterinary medical science which are most relevant to the individual's interest and needs.

Three phases of study within the veterinary medical curriculum are conceptually based on the study of the normal animal (Phase I), the study of disease processes and therapy (Phase II), and clinical applications (Phase III). Phase I and Phase II are organized on an organ system basis, each system is considered in turn, an approach that lends itself to the concept of comparative medicine. Phase I occupies the first three quarters of the curriculum while Phase II extends into the second quarter of the third year. After 5 semesters of study, the student enters rotations through the clinical clerkships. The clinical experience consists of required or core clerkships and elective tracks.

PRE-PROFESSIONAL COURSE REQUIREMENTS

All applicants to the professional curriculum must present a minimum of 80 semester hours of college-level course work, exclusive of courses in physical education and military training. Credit for the College-level Examination Program (CLEP) is acceptable at the level prescribed by the University of Florida. (Pre-Veterinary students should seek appropriate pre-professional advisement at their respective accredited institutions).

a. Biology—a minimum of 12 semester credits including Animal Biology or Zoology (lecture and laboratory); Genetics; and Microbiology (lecture and laboratory).

b. Chemistry—a minimum of 18 semester credits including Inorganic Chemistry (general and qualitative), lecture and laboratory; Organic Chemistry, lecture and laboratory; and Quantitative Analysis.

c. Physics—a minimum of 8 semester credits, lecture and laboratory.

d. Mathematics—a minimum of 3 semester credits of Calculus.

e. Animal Science—a minimum of 8 semester credits, including Introduction to Animal Science and Animal Nutrition.

f. Humanities—a minimum of 8 semester credits.

g. Social Science—a minimum of 6 semester credits.

h. English—a minimum of 6 semester credits, including one course in English composition.

i. Electives—variable number to bring total to 80 semester credits; a course in Biochemistry strongly recommended.

Minor variations in credits will be accepted. The applicant must complete these courses by the end of the Spring semester in the year of application. The College of Veterinary Medicine reserves the right to waive any of these requirements in exceptional cases. The Graduate Record Examination Aptitude Test (GRE) will be required of all applicants.

BASIS FOR SELECTION

Selection for the College of Veterinary Medicine will be made by the Dean based on recommendation of the Faculty Committee on Admissions using the following criteria as the basis for selection.

1) Residency-Highest priority will be accorded residents of Florida. Consideration will be given, however, to a limited number of non-Florida residents with exceptional qualifications.

2) Academic Performance—Evidence of superior scholastic achievement.

3) GRE Scores—Graduate Record Examination Aptitude Test.

4) Background and Experience—Knowledge of the veterinary medical profession. Some type of animal care experience is considered desirable.

5) Letters of Reference—Evaluation of character and potential of applicant as a future Veterinarian.

6) Extra-curricular Activities of Applicant—Achievements, leadership ability, and participation in community activities.

7) Communicative Skill—A brief statement from applicant concerning reasons for seeking admission to the College of Veterinary Medicine.

8) Personal interview.

ADMISSION TO THE COLLEGE OF VETERINARY MEDICINE

When to Apply: Application forms are available between September 1 and December 1 from the Office of the Dean for Student Services, College of Veterinary Medicine. The application forms must be received by the Office of the Registrar, University of Florida by 4:30 p.m. December 15.

APPLICANT INFORMATION

Pre-veterinary requirements may be completed at any accredited 2 or 4 year college or university offering courses of content similar to those described in the University Record of the University of Florida, Gainesville. This study plan is designed to provide the educational basis that future veterinarians must have to satisfactorily meet the demands of the professional curriculum.

Admission to the College of Veterinary Medicine will be granted only for the fall semester of each school year and only on a full-time basis. A prescribed number of student spaces is planned for each class, and a formal application with supporting credentials will be required for each student. The Faculty Committee on Admissions will be responsible for evaluating applications and recommending to the Dean the candidates for the entering class in the professional curriculum. All pre-professional requirements must be completed by the end of the spring semester of the academic year in which application is made. Students reapplying must submit a new application for each application period. It will be the policy of the College not to admit students who have been dismissed by other schools of veterinary medicine.

Further detailed information may be obtained from the Office of the Dean for Student Services, College of Veterinary Medicine, University of Florida, Gainesville, 32610.

Division of Military Science

The University of Florida offers instruction in the Military Sciences as an integral part of its curriculum. The Departments of the Army, Navy, and Air Force each maintain a Reserve Officers Training Corps (ROTC) and provide staffs of military personnel for the instruction and administration of cadets and midshipmen.

ARMY BASIC COURSE, NAVY BASIC COURSE, AND AIR FORCE GENERAL MILITARY EDUCATION PROGRAM

The Army and Navy Basic courses and the Air Force General Military Course include four semesters of instruction. Non-U.S. citizens must receive departmental approval before enrollment.

Cadets and midshipmen are issued uniforms and textbooks by their respective service and are held financially responsible for the care of such property and for its prompt return when directed.

STATUS OF STUDENTS WHO HAVE HAD MILITARY TRAINING AT OTHER SCHOOLS

Students transferring from other college level institutions with ROTC units are allowed credit for military studies completed at such institutions, up to the amount allowed by the institution from which the transfer is made, provided such credit does not exceed four semester hours for the Army or the Air Force General Military Course. A cadet who transfers to another institution where an ROTC detachment of the same service is located may transfer his membership in the Army or Navy Advanced Course or the Air Force Professional Officer Course to that detachment. The eligibility for admission of such students to Military Science, Naval Science, and Aerospace Studies courses at the University of Florida is determined by the Professor of Military Science, Professor of Naval Science, or the Professor of Aerospace Studies as appropriate.

MILITARY COMMITMENT UPON COURSE COMPLETION

Non-Scholarship students enrolled in Army, Air Force, or Navy ROTC incur no military commitment during their first two years (Basic Course) in the program. Upon selection by the respective departments, students completing the basic course or its equivalent may enter the Advanced Course (junior/senior ROTC). Such students execute a contract at time of entry which obligates them upon successful completion of the Advanced Course and commissioning to serve on active duty for a period of not less than three years for Army, three years for Navy, and four years for Air Force, subject to orders of the appropriate service secretary and to continue as a member of a Regular or Reserve component of that service until, at the earliest the sixth, and not later than the eighth anniversary of the receipt of commission. ROTC Scholarship students incur an identical military commitment except they must serve four years on active duty.

Army ROTC Students may also elect to participate in the guaranteed Reserve option, whereby they are not required to serve on active duty. After commissioning and completion of their basic branch school they are then assigned to an Army Reserve or National Guard Unit to fulfill the remainder of their eight year obligation.

ROTC SCHOLARSHIP PROGRAM

The ROTC Vitalization Act of 1964 provides for College Scholarships to ROTC cadets and midshipmen. Those receiving scholarships are selected on a competitive basis. The scholarships pay the cost of tuition, books, fees, supplies and equipment, plus a monthly subsistence allowance of $100. Scholarships are offered for one, two, three, and four years.

UNIFORMS

The ROTC uniforms are identical to the regulation uniform except for insignia. Cadets and midshipmen are required to wear the uniform during drill periods.

Newly entering students in the Army and Air Force ROTC are issued required uniforms and texts from supply. The uniforms and texts remain the property of the ROTC and are returned to supply during semesters of nonattendance, transfer to another institution, or upon completion of the prescribed course of instruction.

Navy uniforms are issued to midshipmen in two ways: Some uniforms are permanent issue so long as satisfactory NROTC participation is carried out; other uniforms are issued especially for special events such as Summer cruises and must be returned.

ARMY ADVANCED COURSE

The general objective of the course of instruction is to provide junior officers who by their education, training, and inherent qualities are suitable for continued development as officers in the United States Army. The aim is to provide a basic military education, and, in conjunction with other college disciplines, to develop individual character and attributes essential to an officer.

The Army Advanced Course includes four semesters of instruction at the University and six weeks Summer camp at a military installation, which normally is attended by the student at the end of his first year's Advanced Course work. Each student applicant for the Advanced Course must have completed the Army ROTC Basic Course, attended a basic ROTC Summer camp of six weeks in lieu thereof, or have had previous military training acceptable as a substitute therefor. Cadets who have successfully completed three years of Junior ROTC may be granted a waiver of the Basic Course upon approval of the PMS. Final selection of students for the Advanced Course is made by the President of the University and the Professor of Military Science.

Students are issued regulation Army uniforms and textbooks. The uniforms and text remain the property of the ROTC and are returned to supply when the student receives his degree and commission. Each student receives from the United States Government a monetary subsistence allowance, presently $100.00 per month, which is paid monthly during the period of enrollment in the Advanced Course for not more than a total of 20 months. Students are paid travel to and from the six-weeks Summer camp; while at camp they are provided quarters, rations and one-half of a second lieutenant's pay per month. All students take the General Military Science course. Upon the student's successful completion of the Advanced Course and graduation, the student is commissioned a second lieutenant in the United States Army Reserve in a branch of the Army as determined by a consideration of his choice, his academic major, his aptitude and the needs of the Army.

Outstanding Advanced Course students are designated "Distinguished Military Students" and upon graduation from the University are designated "Distinguished Military Graduates." A Distinguished Military Student may apply for appointment as a second lieutenant in the Regular Army at any time prior to his designation as "Distinguished Military Graduate." A number of University of Florida graduates accept Regular Army appointments each year.

NAVAL RESERVE OFFICERS TRAINING CORPS

The NROTC Unit was established at the University of Florida in 1972 to provide a source from which qualified men and women officers could be obtained for the Navy and Marine Corps. Depending upon which part of the program students are affiliated with, they are tendered commissions in either the Regular Navy, the Naval Reserve, the Marine Corps or the Marine Corps Reserve, and are immediately placed on active duty.

The program consists of a Naval Science Course and a no-credit two-hour leadership laboratory each semester for four academic years. Shipboard engineering systems, seapower and maritime symposia, terrestrial and celestial navigation, and management and leadership are included in the curriculum. Training cruises, usually of six weeks duration with pay during the summer, are also part of the program.

Students may participate with or without a scholarship. Those who have scholarships have their tuition, books, fees, and some other expenses paid by the Navy. They also receive $100 per month for a maximum of 40 months, during the academic years. Non-scholarship students, or College Program students, do not receive these emoluments. However, they do receive Naval Science textbooks and uniforms free and, in the Junior and Senior years, receive $100 per month during the academic year (up to 20 months.) Scholarships are usually awarded after national competition among high school Seniors. However, College Program students can be awarded scholarships for a period of less than four years and they actually have an advantage over high school students. Scholarship students participate in three Summer cruises; the College Program students become involved in only one cruise, between their Junior and Senior years. There are also Two-Year Scholarship Programs and a Two-Year College Program available. Application to enter these programs should be made by Spring semester of the sophomore year; or if in a five-year curriculum, by Spring semester of the Junior year.

Navy option graduates of the NROTC program will generally receive advanced training in one of the following areas: Nuclear Propulsion, Naval Aviation, or Surface Warfare. Marine Corps option graduates receive a six-month professional course before further assignment. The program also provides for a limited number of graduates to enter the Civil Engineering and Supply Corps.

During the first two years of the program, there are no obligations. However, with commencement of the Junior year students are obligated to serve on active duty after completing the program and receiving their baccalaureate degree. For 40 month scholarship students, the obligation is four years, unless, of course, special programs are undertaken. For 20 month scholarship students, the obligation is three years.

AIR FORCE OFFICER TRAINING CORPS

The Department of Air Force Aerospace Studies was established in September 1946, to select and prepare students, through a permanent program of instruction, to serve as officers in the Regular and Reserve components of the United States Air Force. The curriculum emphasizes the uniformly high level of military understanding and knowledge required of all Air Force officers.

AFROTC training is divided into two phases: The first two years constitute the General Military Course; the last two the Professional Officer Course (POC). The Department offers a four-year and a two-year program. Each of these options leads to a commission as a Second Lieutenant in the United States Air Force. The four-year program requires completion of the General Military Course, a four week field training course and the Professional Officer Course. Students with prior active military service or previous training at Military schools may, on the basis of their experience, receive a waiver for portions of the General Military Course. The two-year program requires, as a substitute for the General Military course, completion of a six-week Field Training Course at an Air Force Base prior to formal enrollment in the Professional Officer Course. Junior College and other non-ROTC college transfer students with no previous ROTC training, who qualify academically, are eligible for the two-year program, as are U of F students with two academic years remaining (after Field Training).

AFROTC training is offered to both men and women students and provides free uniforms and text books. POC cadets receive $100 per month during the academic year. Application for post-commissioning flying training is available to men and women.

GENERAL MILITARY COURSE

The General Military Course (GMC), a two-year course, examines the role of U.S. military forces in the contemporary world, with particular attention to the United States Air Force, its organization and mission. The functions of strategic offensive and defensive forces, general purpose, and aerospace support forces are covered. The development of airpower over the last sixty years is examined by tracing the various concepts of employment of airpower and by focusing on factors which prompted research and technological change. A variety of events and elements in the history of air-power are stressed, especially where these provide significant examples of the impact of airpower on strategic thought.

THE PROFESSIONAL OFFICER COURSE

Enrollment in the Professional Office Course (POC) is open to applicants who demonstrate a high officer potential. Applicant must: (1) be able to fulfill all requirements for a commission prior to his 30th (26½ years if flying applicant) birthday; (2) have two years of academic enrollment remaining in order to obtain a degree; (3) sign a written contract agreeing to complete the course; (4) be a citizen of the United States; (5) pass the Air Force Officers' Qualification Test; (6) pass the Officer physical examination; (7) terminate membership (if member) of any reserve component; (8) enlist in Air Force Reserve (Obligated Reserve Section); and (9) have an academic average of 2.0 or above. Veterans entering the University who desire a commission through AFROTC should contact the Professor of Aerospace Studies prior to registration.

All Professional Officer Course cadets receive subsistence amounting to $100.00 per month for up to 20 months. This is in addition to the pay received for the four (or six)-week Field Training which is normally accomplished between the Sophomore and Junior year. Field Training pay is 50 percent of the basic pay of a Second Lieutenant. Cadets also receive compensation for travel expenses and are furnished food, housing, uniforms, and medical care while attending Field Training, which is conducted at regularly established Air Force Bases. POC academics stress the development of the leadership, management and communication skills which are vital to an officer's effectiveness. Classroom time is also spent developing the officer's professional awareness and understanding the international environment as it affects the national security of the United States. When the student successfully completes the Professional Officer Course and graduates from the University, he is commissioned a Second Lieutenant in the United States Air Force Reserve. Normally he will be called to active duty and given an assignment commensurate with his academic major, the needs of the Air Force and his personal desires. The active duty requirement for those who enter and satisfactorily complete navigator training or pilot training is six or seven years, respectively, from initial call to active duty. For others, the requirement is four years after initial call to active duty.

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The term(s) in which undergraduate courses will be taught is (are) indicated by the following codes: F-Fall, S-Spring, SS-Summer. The absence of a code for an undergraduate course indicates the course will be taught upon sufficient demand or as faculty become available.

FLORIDA'S STATEWIDE COURSE NUMBERING SYSTEM

The course numbers appearing in the catalog are part of a statewide system of prefixes and numbers developed for use by all public postsecondary and participating private institutions in Florida. One of the major purposes of this system is to make transferring easier by identifying courses which are equivalent, no matter where they are taught in the state. All courses designated as equivalent will carry the same prefix and last three digits.

The classifying and numbering of courses was done by community college and university faculty members in each academic discipline. Their work was reviewed by faculty members in all of Florida's postsecondary institutions who made suggestions and criticisms to be incorporated into the system.

The course numbering system is, by law, descriptive and not prescriptive. It in no way limits or controls what courses may be offered or how they are taught. It does not affect course titles or descriptions at individual schools. It seeks only to describe what is being offered in postsecondary education in Florida in a manner that is intelligible and useful to students, faculty and other interested users of the system.

The course numbering system was developed so that equivalent courses could be accepted for transfer without misunderstanding. Each public institution is to accept for transfer credit any course which carries the same prefix and last three digits as a course at the receiving institution. For example, if a student has taken SOC _000 at a community college, he cannot be required to repeat SOC _000 at the school to which he transfers. Further, credit for any course or its equivalent, as judged by the appropriate faculty task force and published in the course numbering system, which can be used by a native student to satisfy degree requirements at a state university can also be used for that purpose by a transfer student regardless of where the credit was earned.

It should be noted that a receiving institution is not precluded from using non-equivalent courses for satisfying certain requirements.

General Rule for Course Equivalencies

All undergraduate courses bearing the same alpha prefix and last three numbers (and alpha suffix, if present) have been agreed upon to be equivalent. For example, an introductory course in Sociology is offered in over 40 postsecondary institutions in Florida. Since these courses are considered to be equivalent, each one will carry the designator SOC _000.

First Digit

The first digit of the course number is assigned by the institution, generally to indicate the year it is offered—i.e., 1 indicates freshman year, 2 indicates sophomore year. In the sociology example mentioned above, one school which offers the course in the freshman year will number it SOC 1000; a school offering the same course in the sophomore year will number it SOC 2000. The variance in first numbers does not affect the equivalency. If the prefix and last three digits are the same, the courses are substantively equivalent.

Titles

Each institution will retain its own title for each of its courses. The sociology courses mentioned above are titled at different schools "Introductory Sociology," "General Sociology," and "Principles of Sociology." The title does not affect the equivalency. The courses all carry the same prefix and last three digits; that is what identifies them as equivalent.

Lab Indicators

Some courses will carry an alpha suffix indicating a lab. The alpha suffixes "L" and "C" are used as follows to indicate laboratories:

"L" means either (a) a course, the content of which is entirely laboratory or (b) the laboratory component of a lecture-lab sequence in which the lab is offered at a different time/place from the lecture.

"C" means a combined lecture-lab course in which the lab is offered in conjunction with the lecture at the same time/same place.

Examples: Marine Biology OCB _013 (lecture only)
OCB _013L (lab only)
Marine Biology with Lab OCB _013C (lecture and lab combined)

Therefore, OCB _013C is equivalent to OCB _013 plus OCB _013L.

Equivalency of Sequences

In certain cases, sequences of courses in a given discipline are equivalent rather than the individual courses which make up these sequences. (For example, MAC _132, _133, _134). In these cases the subject matter topics may not be taught in the same sequence, course by course, in several institutions; however, upon completion of the full sequence at any of the several institutions, students have completed substantively equivalent content. These sequences are clearly identified in the Course Equivalency Profiles.

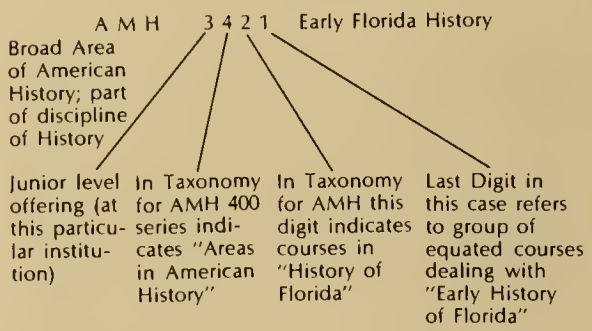
Explanation of Prefixes and Numbers

Prefixes and numbers in the course numbering system are not chosen at random; they are designed to describe course content in an organized fashion within a classification system developed for each subject matter area.

Generally, each of the major classifications in a discipline is represented by a three-alpha prefix. In some cases, one three-alpha prefix has been sufficient for the entire discipline. A discipline may use as many prefixes as necessary to accommodate its major classifications. The logic of the system allows it to be infinitely expandable with minimal disruption to existing numbers.

History, for example, has seven prefixes: AFH, African History; AMH, American History; ASH, Asian History; EUH, European History; HIS, History-General; LAH, Latin American History; and WOH, World History. All history courses in the state will carry one of these prefixes.

A more specific example is AMH 3421.



(Local titles are used for each particular course. The last three numbers are used to indicate equivalency.)

The number of prefixes is a function of the extent of the subclassifications of the given subject matter area.

When this work began there were 920 alpha prefixes in existence; with the new system there are now 370. As in most states there existed no uniformity in Florida's prefixes as indicated by the example below:

Discipline	*Before*	*After*
History	20	7
Sociology	24	3
Philosophy	23	4
Religion	17	1
Mathematics	50	10
English	39	6
Nutrition	38	4

Although it is true that a student majoring at one of the 38 participating institutions may have had only one alpha prefix for his major (e.g., HY-History) and now he will have seven, all prefixes in the same subject matter areas will be the same throughout these institutions.

A complete inventory of taxonomic listings, equivalent

and unique courses has been made available to each academic department of every institution in the state. Students, through their local advisers, should use this information in designing programs which will transfer smoothly.

Exceptions to the Rule for Equivalencies

The following are exceptions to the general rule for course equivalencies:

A. All graduate level courses (except those which the faculty and their reviewing colleagues have determined to be substantively equivalent with undergraduate courses) are not automatically transferable.

B. All numbers which have a second digit of 9 (Ex.: ART 2905) are "place keeper" numbers for such courses as directed independent study, thesis hours, etc. Courses with _900 numbers must be evaluated individually and are not automatically transferable.

C. All internships, practicums, clinical experiences and study abroad courses, whatever numbers they carry, are not automatically transferable.

D. Performance or studio courses in Art, Dance, Theatre, and Music are not automatically transferable but must be evaluated individually.

COURSE PREFIXES LISTING

The following table lists the statewide course prefixes, their titles, and the University of Florida departments which teach this subject matter.

PREFIX	TITLE	TAUGHT BY DEPTS. OF:
ACC	Accounting	Accounting
ADE	Adult Education	Education-Administration & Supervision
ADE	Adult Education	Education-Instruction Leadership & Supervision
ADV	Advertising	Advertising
ADV	Advertising	Communications
AEB	Agr. Economics & Bus.	Food & Resource Economics
AEE	Agr. & Ext. Education	Agricultural & Extension Education
AFA	Afro-American Studies	Liberal Arts & Sciences-Gen
AFH	African History	History
AFR	Air Force ROTC	Military Science-Air Force
AFS	African Studies	Behavioral Studies
"	" "	Liberal Arts & Sciences-Gen
AGE	Agricul. Engineer.	Agricultural Engineering
AGG	Agriculture-General	Agriculture-General
AGR	Agronomy	Agronomy
"	"	Animal Science
"	"	Food Science
AMH	American History	American Studies
"	" "	Engineering-Common Courses
"	" ".	History
AML	American Literature	English
AMS	American Studies	American Studies
ANS	Animal Science	Animal Science
ANT	Anthropology	Anthropology
"	"	Religion
APB	Applied Biology	Biological Sciences
"	" "	Botany
"	" "	Health Related Professions
"	" "	Medicine-Physiology
"	" "	Microbiology & Cell Science
"	" "	Nuclear Engineering Sciences
"	" "	Zoology
ARC	Architecture	Architecture
ARE	Art Education	Education-General Teacher Education
"	" "	Education-Subject Specialization
ARH	Art History	Art
ART	Art	Art
"	"	Education-Subject Specialization
ASG	Animal Science-General	Animal Sciences-General
ASH	Asian History	History
ASI	Astronomy-Instrument.	Astronomy
ASN	Asian Studies	Asian Studies
"	" "	Social Sciences
AST	Astronomy	Astronomy
"	"	Physics
BCC	Basic Clinical Clerkship	Medicine-General
BCH	Biochemistry	Biochemistry & Molecular Biology
"	"	Botany
BCN	Building Construction	Building Construction
"	" "	Engineering Science & Mechanics
BES	Behavioral Studies	Behavioral Studies
BMS	Basic Medical Sciences	Biochemistry & Molecular Biology
"	" " "	Medicine-Anatomy
"	" " "	Medicine-General
"	" " "	Medicine-Immunology & Medical Microbiology
"	" " "	Medicine-Neuroscience
"	" " "	Medicine-Pathology
"	" " "	Medicine-Pharmacology
"	" " "	Medicine-Physiology
BOT	Botany	Botany
"	"	Microbiology & Cell Science
BSC	Introductory Biology	Bio Sci-Integrated Sequence
"	" "	Biochemistry & Molecular Biology
"	" "	Biological Sciences
BTE	Business Teacher Education	Education-Instructional Leadership & Supervision
"	" " "	Education-Subject Specialization
BUL	Business Law	Business Administration-General
CAP	Computer Applications	Business Administration-General
"	" "	Chemical Engineering
"	" "	Computer & Information Science
CBH	Comp. Psy. & Animal Behavior	Psychology
CCJ	Criminology & Criminal Justice	Criminal Justice
CDA	Computer Design/Arch.	Computer & Information Science
CES	Civil Engineering Structures	Civil Engineering
CHI	Chinese Language	Chinese
CHM	Chemistry	Chemical Engineering
"	"	Chemistry
CHS	Chemistry-Specialized	Chemistry
CIS	Computer & Info Systems	Computer & Information Science
CLA	Classical & Ancient Studies	Classics
CLP	Clinical Psychology	Clinical Psychology
"	" "	Psychology
CLT	Classical Lit. in Translation	Classics
CNM	Computational/Numerical Methods	Computer & Information Science
"	" " "	Industrial & Systems Engineering
COC	Computer Concepts	Computer & Information Science
"	" "	Liberal Arts & Sciences-Gen
COE	Cooperative Education	Cooperative Education Program
COM	Communication	Communications
"	"	Speech
COP	Computer Programming	Computer & Information Science
"	" "	Industrial & Systems Engineering
COT	Computer Theory	Computer & Information Science
CPO	Comparative Politics	Political Science
CRM	Computer Resources/Management	Computer & Information Science
CRW	Creative Writing	English
CYP	Community Psychology	Clinical Psychology
DAA	Dance Activities	Physical Education-General
"	" "	Physical Education-Professional
"	" "	Theatre
DAE	Dance Education	Physical Education-Professional
"	" "	Theatre

COURSE PREFIXES LISTING

PREFIX	TITLE	TAUGHT BY DEPTS. OF:
DAN	Dance	Physical Education-Professional
"	"	Theatre
DAS	Dairy Science	Dairy Science
DEN	Dentistry	Dentistry
DEP	Developmental Psychology	Clinical Psychology
"	" "	Psychology
DHE	Demography & Human Ecology	Sociology
DIE	Dietetics	Clinical & Community Dietetics
"	"	Food Science
EAB	Experimental Analysis of Behavior	Psychology
EAS	Engineering: Aerospace	Aerospace Engineering
ECH	Engineering: Chemical	Chemical Engineering
ECI	Engineering: Civil	Civil Engineering
ECM	Engineering: Computer Mathematics	Industrial & Systems Engineering
ECO	Economics	Economics
"	"	Education-Subject Specialization
ECP	Economic Problems & Policy	Economics
"		Urban & Regional Planning
ECS	Economic Systems & Development	Economics
"	" " "	History
EDA	Education: Administration	Education-Admin. & Supervision
EDE	Education: Elementary	Education-General Teacher Education
"	" "	Education-Instructional Leadership & Supervision
EDF	Education: Foundations	Education-Foundations
"	" "	Education-General Teacher Education
EDG	Education: General	Education-General Teacher Education
"	" "	Education-Instructional Leadership & Supervision
"	" "	Education-Subject Specialization
EDH	Education: Higher	Education-Instructional Leadership & Supervision
EDM	Education: Middle School	Education-General Teacher Education
"	" " "	Education-Subject Specialization
EDS	Education: Supervision	Education-General Teacher Education
"	" "	Education-Instructional Leadership & Supervision
EEC	Education: Early Childhood	Education-General Teacher Education
EED	Education: Emotional Disorders	Education-Special Education
EEL	Engineering: Electrical	Computer & Information Science
"	" "	Electrical Engineering
EES	Environmental Engineering Science	Environmental Engineering Science
"	" " "	Microbiology & Cell Science
EEX	Education: Except. Child-Core Comp.	Education-Admin. & Supervision
"	" " " "	Education-Special Education
"	" " " "	Education-Subject Specialization
EGC	Guidance & Counseling	Education-Counselor Education
"	" "	Rehabilitation Counseling
EGI	Education: Except. Child-Gifted	Education-Special Education
EGM	Engineering: Mechanical	Engineering-Common Courses
"	" "	Engineering Science & Mechanics
EGN	Engineering: General	Civil Engineering
"	" "	Engineering-Common Courses
"	" "	Engineering Graphics
"	" "	Liberal Arts & Sciences-Gen
EIA	Education: Industrial Arts	Education-Subject Specialization
EIN	Engineering: Industrial	Industrial & Systems Engineering

PREFIX	TITLE	TAUGHT BY DEPTS. OF:
ELD	Ed: Specific Learning Disabilities	Education-Special Education
ELR	Engineer: Elec. Lab & Related Areas	Electrical Engineering
EMA	Engineering: Material	Materials Science & Engineering
EME	Education: Technology & Media	Education-Instructional Leadership & Supervision
EML	Engineering: Mechanical	Mechanical Engineering
EMR	Education: Mental Retardation	Education-Special Education
ENC	English Composition	English
ENG	English-General	English
"	" "	Linguistics
ENL	English Literature	English
ENU	Engineering: Nuclear	Coastal & Oceanographic Engine
"	" "	Microbiology & Cell Science
"	" "	Nuclear Engineering Sciences
ENV	Engineering: Environmental	Civil Engineering
"	" "	Environmental Engineering Science
ENY	Entomology	Entomology & Nematology
EOC	Engineering: Ocean	Coastal & Oceanographic Engine
EPH	Ed: Physical & Multiple Handicap	Education-Special Education
ESE	Education: Secondary	Education-General Teacher Education
"	" "	Education-Subject Specialization
ESI	Engineering Systems-Industrial	Industrial & Systems Engineering
ESL	English Study of Language	English
ETC	Engineering Tech: Civil	Engineering Technology
ETG	Engineering Tech: General	Engineering Technology
"	" " "	Materials Science & Engineering
ETI	Engineering Tech: Industrial	Engineering Technology
ETM	Engineering Tech: Mechanical	Engineering Technology
EUH	European History	History
EUS	European Studies	Liberal Arts & Sciences-Gen
EVS	Environmental Science	Engineering Technology
EVT	Ed: Vocational/Technical	Education-Instructional Leadership & Supervision
"	" " "	Education-Subject Specialization
EXP	Experimental Psychology	Medicine-Neuroscience
"	" "	Psychology
"	" "	Zoology
FIL	Film	Broadcasting
"	Film	Communications
FIN	Finance	Business Admin.-General
"	"	Finance & Insurance
FLE	Foreign Lang. Ed.	Education-Subject Specialization
FNR	Forestry & Natural Resources	Forest Resources & Conservation
FOL	Foreign & Biblical Languages	Foreign Language-Cross Department
"	" " "	Romance Languages and Literature
FOR	Forestry	Forest Resources & Conservation
FOS	Food Science	Food Science
FOW		German
FOW	For. & Bib. Lang. Comp. Lit.	Romance Languages and Literature
FRC	Fruit Crops	Fruit Crops
"	" "	Horticultural Science
FRE	French Lang.	French
FRT	French Lit. in Translation	French
FRW	French Lit. (Writings)	French
GEA	Geography-Regional (Area)	Geography
GEB	General Business	Business Admin.-General
GEO	Geography-System	Geography
GER	German Language	German
GET	German Lit. in Translation	German
GEW	German Lit. (Writings)	German
GEY	Gerontology	Gerontology
GLY	Geology	Geology

PREFIX	TITLE	TAUGHT BY DEPTS. OF:
GMS	Graduate Medical Sciences	Medicine-General
"	" "	Medicine-Neuroscience
GRE	Greek Language	Greek
GRW	Greek Lit. (Writings)	Greek
HCA	Health Care Administration	Health & Hospital Administration
"	" " "	Health Related Professions
"	" " "	Liberal Arts & Sciences-Gen
HEB	Hebrew	Hebrew
HES	Health Education & Safety	Health Education & Safety
"	" " "	History
HIS	History-General	Engineering-Common Courses
"	" "	History
HLP	Health, Leisure, & Phy. Ed.	Health Education & Safety
HOS	Horticultural Sciences	Horticultural Science
HSC	Health Science	Classics
"	" "	Health Related Professions
"	" "	Liberal Arts & Sciences-Gen
HUM	Humanities	Asian Studies
"	"	English
"	"	Fine Arts
"	"	Humanities
"	"	Liberal Arts & Sciences-Gen
HUN	Human Nutrition	Clinical & Community Dietetics
"	" "	Food Science
ICW	Icelandic Lit. (Writings)	German
IDS	Interdisciplinary Studies	Behavioral Studies
"	" "	Humanities
"	" " "	Liberal Arts & Sci Integr. Stu.
"	" "	Liberal Arts & Sciences-Gen
"	" "	Liberal Arts & Sciences Honors
IND	Interior Design	Interior Design
INR	International Relations	Physical Sciences
"	" "	Political Science
ISC	Interdisciplinary Natural Science	Physical Sciences
ITA	Italian Language	Italian
ITW	Italian Literature (Writings)	Italian
JAP	Japanese Language	Japanese
JOU	Journalism	Communications
"	"	Journalism
LAA	Landscape Architecture	Landscape Architecture
LAE	Lang. Arts & English Ed.	Education-Subject Specialization
"	" " " "	English
LAH	Latin American History	History
LAS	Latin American Studies	Latin American Studies
LAT	Latin (Language Study)	Latin
LAW	Law	Law
"	"	Law-Taxation
LEI	Leisure	Recreation
LIN	Linguistics	English
"	"	Foreign Language-Cross Department
"	"	Health Related Professions
"	"	Linguistics
"	"	Speech
LIS	Library Science	English
LIT	Literatures	English
LNW	Latin Literature	Latin
MAA	Mathematics-Analysis	Mathematics
MAC	Math: Calculus & Precalculus	Mathematics
MAD	Mathematics-Discrete	Mathematics
MAE	Mathematics Education	Education-Subject Specialization
"	" "	Mathematics
MAF	Marriage & Family	Behavioral Studies
"	" "	Sociology
MAG	Mechanized Agriculture	Mechanized Agriculture
MAN	Management	Business Admin.-General
"	"	Management
MAP	Mathematics-Applied	Mathematics
MAR	Marketing	Business Admin.-General
"	"	Marketing
MAS	Math: Algebraic Structures	Mathematics
MAT	Mathematics	Mathematics
MCB	Microbiology	Microbiology & Cell Science
MED	Medicine	Medicine
MET	Meteorology	Atmospheric Sciences
"	"	Geography
MGF	Math: General & Finite	Mathematics
MHF	Math: History & Foundations	Mathematics
MIS	Military Science	Military Science-Army
MLS	Medical Laboratory Science	Medical Technology
MMC	Mass Media Communication	Communications
"	" " "	Journalism
MTB	Math: Technology & Business	Mathematics
MTG	Math: Topology & Geometry	Mathematics
MUC	Music: Composition	Music
MUE	Music Education	Education-Subject Specialization
"	" "	Music
MUG	Music: Conducting	Music
MUH	Music: History/Musicology	Music
MUL	Music: Music Literature	Music
MUN	Music: Musical Ensembles	Music
MUO	Music: Opera/Musical Theatre	Music
MUR	Music: Church Music	Music
MUS	Music	Music
MUT	Music: Theory	Music
MVB	Music: Applied Brasses	Music
MVK	Music: Applied-Keyboard	Music
MVO	Music: Applied-Other Instruments	Music
MVP	Music: Applied-Percussion	Music
MVS	Music: Applied-Strings	Music
MVV	Music: Applied-Voice	Music
MVW	Music: Applied-Woodwinds	Music
NSC	Naval Science	Military Science-Navy
NUR	Nursing	Nursing
NUS	Nursing Support	Nursing
NUU	Nursing Universals	Nursing
OCC	Oceanography: Chemical	Coastal & Oceanographic Engineering
OCE	Oceanography	Coastal & Oceanographic Engineering
"	"	Geology
OCG	Oceanography: Geological	Geology
OCP	Oceanography: Physical	Coastal & Oceanographic Engineering
OMT	Oceanography: Marine Technology	Liberal Arts & Sciences-Gen
ORH	Ornamental Horticulture	Horticultural Science
"	" "	Ornamental Horticulture
ORI	Oral Interpretation	Theatre
OTH	Occupational Therapy	Occupational Therapy
PAD	Public Administration	Political Science
PAS	Physician's Assistant	Physicians Assistant
PCB	Process Biology	Botany
"	" "	Medicine-Biochemistry
"	" "	Microbiology & Cell Science
"	" "	Zoology
PCO	Psychology for Counseling	Education-Counselor Education
"	" " "	Psychology
PEL	Phy. Ed. (Gen.)-Object Centrd.-Land	Physical Education-General
PEM	Phy Ed. (Gen.)-Perfm Centrd.-Land	Physical Education-General
PEN	Phy. Ed. (Gen.)-Water	Physical Education-General
PEO	Phy. Ed. (Pro)-Object Centrd.-Land	Physical Education-Professional
PEP	Phy. Ed. (Pro)-Perfm Centrd-Land	Physical Education-Professional
PEQ	Phy Ed. (Pro)-Water	Physical Education-Professional
PET	Phy. Ed. Theory	Physical Education-Professional
PHA	Pharmacy	Pharmaceutical Chemistry
"	"	Pharmacology
"	"	Pharmacy
PHH	Philosophy, History of	Philosophy
PHI	Philosophy	Philosophy
"	"	Religion
PHM	Philosophy of Man & Society	Philosophy
PHP	Philosophers & Schools	Philosophy
PHS	Physics-Specialized	Astronomy
"	" "	Physics
PHT	Physical Therapy	Physical Therapy
PHY	Physics	Astronomy
"	"	Physics
PLP	Plant Pathology	Plant Pathology
PLS	Plant Science	Agronomy
"	" "	Plant Sciences-General
PLW	Polish Lit (Writings)	Polish

COURSE PREFIXES LISTING

PREFIX	TITLE	TAUGHT BY DEPTS. OF:
PMA	Pest Management	Pest Management & Plant Protection
POL	Polish Language	Polish
POR	Portuguese Language	Portuguese
POS	Political Science	Political Science
POT	Political Theory	Political Science
POW	Portuguese Lit (Writings)	Portuguese
PPE	Psychology of Personality	Psychology
PRT	Portuguese in Translation	Portuguese
PSB	Psychobiology	Psychology
"	"	Zoology
PSC	Physical Sciences	Physical Sciences
PSE	Poultry Science	Poultry Science
PSY	Psychology	Psychology
PUP	Public Policy	Political Science
PUR	Public Relations	Communications
"	" "	Public Relations
QMB	Quantitative Methods in Business	Business Admin.-General
"	" " "	Management
REA	Reading	English
RED	Reading Education	Education-Instructional Leadership & Supervision
"	" "	English
REE	Real Estate	Real Estate & Urban Analysis
REL	Religion	Behavioral Studies
"	"	Philosophy
"	"	Religion
RMI	Risk Management & Insurance	Finance & Insurance
RTV	Radio-Television	Broadcasting
"	" "	Communications
RUS	Russian Language	Russian
RUT	Russian Lit. in Translation	Russian
RUW	Russian Lit. (Writings)	Russian
SCE	Science Education	Education-Subject Specialization
SED	Speech Education	Education-Subject Specialization
"	" "	Liberal Arts & Sciences-Gen
"	" "	Speech
SOC	Sociology	Religion
"	"	Sociology
SOP	Social Psychology	Psychology
SOS	Soil Science	Forest Resources & Conservation
"	" "	Soil Science
SOW	Social Work	Sociology
SPA	Speech Pathology & Audiology	Speech
SPC	Speech Communication	English
"	" "	Social Sciences
"	" "	Speech
SPN	Spanish Language	Spanish
SPS	School Psychology	Education-Foundations
SPT	Spanish Lit. in Translation	Spanish
SPW	Spanish Lit. (Writings)	Spanish
SSE	Social Studies Education	Education-Subject Specialization
SSI	Social Sciences-Interdis.	Economics
"	" " "	History
"	" " " "	Political Science
"	" " " "	Social Sciences
"	" " " "	Sociology
STA	Statistics	Business Admin.-General
"	"	Industrial & Systems Engineering
"	"	Statistics
STD	Student Development	Career Development Program
SUR	Surveying	Civil Engineering
SWA	Swahili Language	Swahili
SWT	Swahili Lit. in Translation	Swahili
THE	Theatre	Theatre
TPA	Theatre Production & Admin.	Theatre
TPP	Theatre Perfm. & Perfm. Training	Theatre
TTE	Transportation & Traffic Engineer.	Civil Engineering
URP	Urban & Regional Planning	Urban & Regional Planning
VEC	Vegetable Crops	Horticultural Science
"	" "	Vegetable Crops
VEM	Veterinary Medicine	Veterinary Medicine
VES	Veterinary Science	Veterinary Science
WIS	Wildlife Science	Forest Resources & Conservation
WOH	World History	History
WST	Women's Studies	Liberal Arts & Sciences-Gen
ZOO	Zoology	Anthropology
"	"	Botany
"	"	Geology
"	"	Microbiology & Cell Science
"	"	Zoology

ACCOUNTING
School of Accounting
INSTRUCTIONAL STAFF 1981-82

Schaefer, H.P., Director; Snowball, D.A.T., Asst. Director; Abdel-khalik, A.R.; Addy, N.; Ajinkya, B.B.; Atiase, R.; Bailey, K.E.; Barton, T.; Boyles, J.V.; Brooks, J.; Bush, F.; Church, B.; Collins, J.A.; Collins, W.A.; Friedberg, A.H.; Gleim, I.N.; Gomaa, I.; Johnson, S.; Knechel, W.R.; Kramer, J.L.; Kramer, S.S.; Lee, T.; Maddocks, M.; McDonald, C.L.; Messier, W.F.; Odaiyappa, R.; Olson, C.; Plumlee, R.D.; Rutledge, R.; Shields, D.P.; Simmons, J.K.; Smith, E.D.; Sykes, V.; Thompson, D.; Thompson, R.; Yu, S.C.

Courses numbered 3000 or higher are open only to students with junior standing or above. Courses numbered below 3000 are not open to students with 4AC classification. Note, in addition, the specific prerequisites for certain courses. A student may not take an accounting course (with the exception of ACC 2301) unless a grade of "C" or better has been earned in each accounting prerequisite to that course.

Required undergraduate courses are offered Fall and Spring semesters. Information on the remaining courses and on summer session offerings may be obtained from the School.

ACC 2001 Introduction to Accounting.
Credits: 5
Conceptual introduction to financial accounting and managerial accounting. Emphasizes the role of accounting in the resource allocation process; alternative wealth and income measurement models; preparation and interpretation of conventional financial statements. Examines accounting for cost reporting and control and the reports and analytical tools used by management.

ACC 2301 Elementary Managerial Accounting.
Credits: 2; Prereq: Introductory Financial Accounting.
Not available to students completing ACC 2001 at the University of Florida subsequent to Summer 1981. Accounting for cost reporting and control. Reports, statements and analytical tools used by management.

ACC 3123 Financial Accounting 1.
Credits: 4; Prereq: Grade of B or better in ACC 2001 or equivalent.
Studies the basic accounting cycle; the assumptions underlying income determination and the theories of matching costs and revenue; asset acquisition and valuation; and accounting for liabilities.

ACC 3143 Financial Accounting 2.
Credits: 4; Prereq: Grade of C or better in ACC 3123; Coreq: FIN 3403.
Continuation of ACC 3123. Examines accounting for owners' equity and selected accounting issues.

ACC 3401 Cost and Management Accounting.
Credits: 4; Prereq: Grade of B or better in ACC 2001 or equivalent.
Studies cost and management accounting, including job, process, and joint product costing, standard costing and variance analysis.

ACC 4501 Federal Income Tax Accounting I.
Credits: 4; Prereq: Grade of C or better in ACC 3123.
Emphasizes the tax treatment of economic transactions in day to day business operations and family living situations. Topics include: the basic statutory provisions relevent to determining taxable gross income, allowable deductions, the tax computation, the recognition or nonrecognition of gains or losses on dispositions of property, and the characterization of gains and losses.

ACC 4602 Auditing 1.
Credits: 4; Prereq: Grades of C or better in ACC 3143, ACC 3401, and ACC 4741.
Covers auditing standards and procedures with an emphasis upon ethics, legal liability, internal control, audit evidence, testing, and an introduction to statistical sampling and EDP auditing.

ACC 4741 Information Systems for Management Planning and Control.
Credits: 4; Prereq: COP 3120 or COP 3121 and grade of C or better in ACC 3401 or in the case of nonaccounting majors, permission of the School.
Includes: advanced hardware; systems theory; data base design; systems design, evaluation and implementation; and internal control in computer based systems.

ACC 4850 Financial Statement Analysis for Non-accountants.
Credits: 3; Prereq: ACC 2001.
Analyzes the process of accumulating financial information and the elements, underlying assumptions, and limitations of financial statements. Assesses the forces shaping financial reporting, especially the FASB and the SEC. Not for accounting majors.

ACC 4905 Individual Work in Taxation.
Credits: 1 to 2; Prereq: ACC 4501 and permission of the School.
For students who wish to support regular coursework in taxation by individual study under guidance. May be repeated with change in content up to a maximum of 4 credits.

ACC 4934 Special Topics
Credits: 1 to 3; Prereq: Permission of the School.
Course provides an opportunity for study in depth of topics not offered in other courses and of topics of special current significance. May be repeated with change in content up to a maximum of 6 credits.

ACC 4940 Supervised Accounting Internship
Credits: 2 to 4; Prereq: Consent of accounting internship coordinator.
Applied work in Professional accounting. Requires several papers and reports. Advance approval is required.

ADVANCED ACCOUNTING AND GRADUATE COURSES

Courses in the 5000 group are available to undergraduate students who have senior standing and an upper division grade point average of at least 2.8. Registration in 6000 level courses requires advisor approval.

ACC 5011 Financial Accounting.
Credits: 3 (not for undergraduate accounting majors); Prereq: Permission of MBA Director.

ACC 5214 Advanced Financial Accounting for Complex Organizations.
Credits: 4; Prereq: ACC 3143.

ACC 5453 Advanced Cost and Managerial Accounting.
Credits: 3; Prereq: ACC 3401 and QMB 3700.

ACC 5510 Tax Factors in Management Decisions.
Credits: 3 (not for accounting majors)

ACC 5511 Federal Income Tax Accounting 2.
Credits: 3; Prereq: ACC 4501.

ACC 5512 Federal Income Taxation Procedures and Research.
Credits: 4; Prereq: ACC 4501.

ACC 5513 Transactions Involving Shareholders and Corporations.
Credits: 3; Prereq or Coreq: ACC 5512.

ACC 5531 Federal Estate and Gift Taxation.
Credits: 3; Prereq: ACC 5512 or consent of instructor.

ACC 5556 Transactions Involving Partners and Partnerships.
Credits: 3; Prereq: ACC 5512.

ACC 5582 Taxation of Foreign Related Transactions.
Credits: 3; Prereq: ACC 5512.

ACC 5632 Auditing 2.
Credits: 3; Prereq: ACC 4602 and ECO 3411.

ACC 5745 Analysis and Design of Business Systems.
Credits: 3; Prereq: ACC 4741.

ACC 5846 Advanced Accounting for the Controllership Function.
Credits: 3; Prereq: ACC 3401.

ACC 6290 Accounting Theory and Financial Reporting Standards.
Credits: 4; Prereq: ACC 3143.

ACC 6692 Auditing and Financial Accounting Issues and Cases.
Credits: 3

ACC 6739 Management Information Systems Seminar.
Credits: 3

ACC 6821 Interdisciplinary Considerations in Accounting Theory Development.
Credits: 3

ACC 6905 Individual Work in Accounting.
Credits: 1 to 4

ACC 6910 Supervised Research.
Credits: 1 to 5††

ACC 6940 Supervised Teaching.
Credits: 1 to 5††

ACC 7292 Philosophy of Science and Research in Financial Accounting.
Credits: 5

ACC 7395 Research in Management Accounting and Information Economics.
Credits: 5

ACC 7805 Development of Thought in Accounting Theory
Credits: 3

ACC 7925 Accounting Research Worshop.
Credits: 4; Prereq: Permission of Ph.D. coordinator.

ACC 7980 Doctoral Research.
Credits: 1 to 15††

ADVERTISING
College of Journalism and Communications
INSTRUCTIONAL STAFF 1981-82

Terhune. J.L., Chairman; Holland, D.R.; Hooper, L.I.; Malickson, D.L.; Pierce, F.N.; Pisani, J.R.; Sutherland, J.C.

The program in advertising is designed primarily to train men and women for planning, creative, administrative, sales or other positions with advertisers, media, or agencies. These courses, however, may be taken for elective credit by students in all Upper Division units of the University. Students who are interested in major work in Advertising, Journalism, Radio, Television and Public Relations are also referred to course offerings under Broadcasting. Journalism and Public Relations and to the requirements of the College of Journalism and Communications.

"Students who have not been admitted to the College of Journalism and Communications must have a 2.5 overall grade point average to enroll in other than the following courses: MMC 1000, MMC 2100, RTV 2000, ADV 3000 and PUR 3000."

ADV 3000 Elements of Advertising, F, S, SS.
Credits: 3; Prereq: Sophomore standing.
The role of advertising in a free economy, and its place in the media of mass communications. A study of advertising appeals, product and market research, selection of media, testing of advertising effectiveness, organization of the advertising profession.

††Grading is on S-U basis only.

Descriptions

AEROSPACE ENGINEERING

ADV 4101 Copywriting and Visualization. F, S, SS.
Credits: 3; Prereq: minimum grade of C in both MCC 2100 and ADV 3000; ability to type 30 words per minute.
Theory and practice of writing copy and preparing rough visuals for print advertising, including newspapers, magazines, direct mail and outdoor advertising.

ADV 4102 Advanced Copywriting. S.
Credits: 3; Prereq: ADV 4103 and ADV 4101.
Advanced projects in major advertising fields — e.g., consumer, public service and industrial advertising. Emphasis on research, planning, and writing. Group discussions and individual conferences.

ADV 4103 Radio-TV Advertising. F, S, SS.
Credits: 3; Prereq: minimum grade of C in both MMC 2100 and ADV 3000; ability to type 30 words per minute.
Study of economics, standards and ethics of radio and television advertising copy. Preparation and presentation of commercial broadcast copy.

ADV 4200 Advertising Graphics and Production. F, S.
Credits: 3; Prereq: minimum grade of C in ADV 3000.
Designed to acquaint students with the terminology and production techniques of the advertising business. Lectures will cover such subjects as typography, printing, engraving, photography, silk screening, direct mail, exhibits, displays, packaging.

ADV 4300 Media Planning. F, S.
Credits: 3; Prereq: minimum grade of C in ADV 3000.
Designed to acquaint students with the problems, techniques and strategy of buying advertising space and time effectively and economically in newspapers, magazines, radio, television and outdoor media.

ADV 4400 International Advertising. F.
Credits: 2; Prereq: minimum grade of C in ADV 3000.
Advertising in the world's markets. A review of the various advertising methods and techniques in copy and layout used outside the U.S. Emphasis on the relationship of foreign advertising to the American style.

ADV 4501 Advertising Research Techniques. F, S, SS.
Credits: 3; Prereq: Senior standing in the College of Journalism and Communications.
The application of both survey and experimental techniques to determine the effectiveness of print and broadcast advertising messages. Emphasis on stating objectives and determining by pre- and post-testing of advertising copy the attainment of goals. Special attention to secondary research sources. Use of case studies.

ADV 4600 Advertising Agency Management. S.
Credits: 3; Prereq: minimum grade of C in ADV 3000.
An overview of the advertising agency business in the U.S. with emphasis on the advertising agency as a business operation. Includes billing procedures, income sources, cost-accounting techniques, internal operations, personnel policies, the law and the agency and current trends.

ADV 4700 Retail Advertising. F, S.
Credits: 3; Prereq: ADV 4101, ADV 4103.
A survey of retail advertising, including co-op, trade and collateral materials. Brings together work of preceding advertising courses; includes experience and training in planning, preparation and presentation of retail advertising.

ADV 4800 Advertising Campaigns. F, S, SS.
Credits: 3; Prereq: ADV 4103, ADV 4101 and Senior standing in the College of Journalism and Communications.
An advanced advertising course requiring the student to prepare and produce complete general advertising campaigns. Emphasis is placed on production methods, costs, research and media and analysis.

ADV 4905 Individual Problems. F, S, SS.
Credits: 1 to 3
At least 10 hours of Advertising in the Upper Division, and approval of the Chairman and the Dean. The student and the instructor concerned will choose a problem or project which will give the student experience in his major field.

ADV 4930 Special Study in Advertising.
Credits: 2 to 3
Variable advertising-related topics not covered in other advertising courses. May be repeated with change of content one time.

ADV 4931 Seminar Ethics and Problems in Advertising. F, S.
Credits: 2
Open only to advertising Seniors in their graduating semester, or on approval of instructor. Bringing together the work of preceding advertising courses and projecting this knowledge to the solution of problems that will arise in the professional field.

ADV 4940 Advertising Internship. F, S, SS.
Credits: 1 to 3††; Prereq: Minimum of 10 hours of professional courses earned and a 2.5 grade point average. Must have advance approval from academic adviser, department and college offices to receive credit.
Student and instructor will select an appropriate work area related to the field of advertising for on-the-job training. Student will work a minimum of five hours on the job for every hour of credit to be received. Progress reports and summary required. May be repeated with change of content up to a maximum of 4 credits.

ADV 4949 Co-op Work Experience. F, S, SS.
Credits: 1††; Prereq: Minimum of 10 hours of professional courses earned and a 2.5 GPA. Must have advance approval from academic adviser, department and college offices to receive credit.
Practical co-op work experience relating to advertising under approved business, institutional or governmental supervision. May be repeated with changed work program upon departmental approval.

††Grading is on S-U basis only.

AEROSPACE ENGINEERING
College of Engineering
Department of Engineering Sciences

INSTRUCTIONAL STAFF 1981-82

Millsaps, Knox, Chairman; Eisenberg, M.A., Associate Chairman; Anderson, R.C.; Bisplinghoff, R.L.; Boykin, W.H., Jr.; Clarkson, M.H.; Cristescu, N.; Doddington, H.W.; Ebcioglu, I.K.; Edson, C.G.; Fearn, R.L.; Green, A.E.S.; Grinter, L.E.; Hemp, G.W.; Hirko, R.J.; Hoover, J.W.; Hsu, C.-C.; Jenkins, D.A.; Kalman, R.E.; Kurzweg, U.H.; Leadon, B.M.; Lindgren, E.R.; Lu, S.Y.; Malvern, L.E.; Milton, J.E.; Nevill, G.E., Jr.; Partheniades, E.; Ross, C.A.; Sierakowski, R.L.; Sun, C.T.; Taylor, C.E.; von Ohain, H.J.P.; Walsh, E.K.

Although not separately stated, the prerequisites for all courses offered by the Department of Engineering Sciences may include classification as a student in good standing in aerospace engineering, engineering science and/or other engineering program for which curriculum the particular course is required. Such prerequisite will not be applied routinely. Students from throughout the university are encouraged to enroll for all courses for which they have the specific prerequisite background.

EAS 1930 Freshman Seminar in Aerospace Engineering. F, S.
Credits: 1††
Discussion of a field of aerospace engineering endeavor. Consult department each semester for particular subject offered. May be repeated with a change of content up to a maximum of 3 credits.

EAS 3001 Applied Aerodynamics 1. F.
Credits: 3; Coreq: EGM 3511 or EGM 3420.
Fundamentals of incompressible and compressible flows, aerodynamic principles relating to lift and drag. Two-dimensional airfoils and three-dimensional wings with high and low aspect ratios are treated for subsonic and supersonic flows.

EAS 4105 Applied Aerodynamics 2. S.
Credits: 3; Prereq: EAS 3001.
Operating characteristics of different types of aircraft power plants. Airplane performance including takeoff distance, climb rates, range payload curves and landing distances. Introduction to stability and control.

EAS 4106 Low Speed Aerodynamics. S.
Credits: 3; Prereq: EAS 3001 and EGM 4312; Coreq: EAS 4106L.
Basic equations of motion for the flow of an incompressible fluid. Potential flow, laminar and turbulent boundary layer theory, airfoil characteristics and Prandtl's lifting line theory.

EAS 4106L Subsonic Wind-Tunnel Laboratory. S.
Credits: 1; Coreq: EAS 4106.
Laboratory experiments in a subsonic wind-tunnel.

EAS 4112 High Speed Aerodynamics. F.
Credits: 3; Prereq: EAS 3001, EGM 4312 and EML 3100; Coreq: EAS 4112L.
Basic equations of motion for the flow of a compressible fluid. Isentropic flow, normal and oblique shock waves, linearized flows, method of characteristics, and supersonic thin-airfoil theory.

EAS 4112L Supersonic Wind-Tunnel Laboratory. F.
Credits: 1; Coreq: EAS 4112.
Laboratory experiments in a supersonic wind-tunnel.

EAS 4200 Aerospace Structures 1. F.
Credits: 3; Prereq: EGM 3520; Coreq: EAS 4201L.
Types of flight structures. Flight and dynamic loads. Bending and shear analysis of flight structures. Elastic analysis of flight structures. Matrix methods for deflections. Problem solving sessions.

EAS 4201L Aerospace Structures Laboratory 1. F.
Credits: 1; Coreq: EAS 4200.
Experimental methods of stress determination in flight structures. Proof test of structures and demonstration of failure modes.

EAS 4210 Aerospace Structures 2. S.
Credits: 3; Prereq: EAS 4200; Coreq: EAS 4210L.
Indeterminate analysis. Allowable loads and strength analysis. Practical problems in strength checking of structural components. Design choices in structural materials and configurations. Introduction to structural composites. Problem solving sessions.

EAS 4210L Aerospace Structures Laboratory 2. S.
Credits: 1; Coreq: EAS 4210.
Demonstration of failure modes of columns, plates, composite shapes and sheet-stiffener panels.

EAS 4230 Introductory Aeroelasticity. S.
Credits: 3; Prereq: EAS 4200 and EAS 4106.
Vibrations in typical flight structures. Self-excited aeroelastic systems. Stability of oscillating system. Fundamentals of surface flutter. Static aeroelastic effects. Acoustics in aerospace applications.

EAS 4240 Aerospace Structural Composites 1. S.
Credits: 3; Prereq: EMA 3010 and EAS 4200.
Various types and applications of structural composites used in flight structures. Introduction to analysis of structural composites.

EAS 4300 Aerospace Propulsion. S.
Credits: 3; Prereq: EAS 4112.
Basics of air-breathing and rocket engines used in flight systems.

EAS 4400 Stability and Control of Aircraft. F.
Credits: 3; Prereq: EGM 4312 and EAS 4105.
Static stability and control; equations of motion; stability derivatives; stability of longitudinal and lateral motion of aircraft.

EAS 4412 Synthesis of Guidance and Control Systems. S.
Credits: 3; Prereq: EGM 3311 or consent of instructor.
Review of current guidance and control systems. Synthesis of open and closed loop guidance and control systems using classical and modern control theory. Aerospace applications.

EAS 4510 Problems in Astronautics. S.
Credits: 3; Prereq: EGM 4312.
Newtonian orbits; celestial coordinate systems. Observations in the solar system. Review of astrophysics, instruments used in space science.

EAS 4700 Aerospace Design 1. F.
Credits: 3; Prereq: EAS 4105; Coreq: EAS 4200.
Applications of the principles of analysis and design to aerospace vehicles.

EAS 4710 Aerospace Design 2. S.
Credits: 3; Prereq: EAS 4700.
Second part of EAS 4700-4710.

EAS 4803 Instrumentation System Synthesis. S.
Credits: 3; Prereq: EEL 3003, or EEL 3111, or consent of instructor.
An introduction to the principles of instrumentation and their application to the synthesis and use of modern instrumentation systems for testing, research and development. Aerospace applications.

EAS 4905 Individual Study in Aerospace Engineering. F, S, SS.
Credits: 1 to 4. May be repeated to a maximum of 12 credits. Prereq: Recommendation of Department Chairman.
Selected problems or projects in the student's major field of engineering study.

EAS 4933 Senior Seminar. S.
Credits: 1; Prereq: 4EG classification.
Student presentations and discussions on subjects of current and continuing interest in engineering science and aerospace engineering.

EAS 4939 Special Topics in Aerospace Engineering. F, S, SS.
Credits: 1 to 4; Prereq: Permission of Instructor. May be repeated with change in content to a maximum of 12 credits.

EAS 4949 Co-op Work Experience. F, S, SS.
Credits: 1††; Prereq: 4EG classification; One term of industrial employment including extra work according to a pre-approved outline. Practical engineering work under industrial supervision, as set forth in the College Regulations.

GRADUATE COURSES

EAS 6135 The Dynamics of Real Gases 1.
Credits: 3

EAS 6136 The Dynamics of Real Gases 2.
Credits: 3

EAS 6138 Gasdynamics.
Credits: 3

EAS 6141 Advanced Plasma Theory.
Credits: 3

EAS 6221 Advanced Aerospace Structures.
Credits: 3

EAS 6225 Aerodynamics of Wings and Bodies.
Credits: 3

EAS 6242 Advanced Structural Composites 1.
Credits: 2

EAS 6243 Advanced Structural Composites 2.
Credits: 2

EAS 6415 Guidance and Control of Aerospace Vehicles.
Credits: 3

EAS 6720 Advanced Aerospace Design.
Credits: 1 to 6; Maximum of 12 credits.

EAS 6905 Aerospace Research.
Credits: 1 to 6; Maximum of 12 credits.

EAS 6910 Supervised Research.
Credits: 1 to 5††

EAS 6935 Graduate Seminar.
Credits: 1††; Maximum of 6 credits

EAS 6939 Special Topics in Aerospace Engineering.
Credits: 1 to 6; Maximum of 12 credits

EAS 6940 Supervised Teaching.
Credits: 1 to 5††

EAS 6971 Research for Master's Thesis.
Credits: 1 to 15††

EAS 7980 Research for Doctoral Dissertation.
Credits: 1 to 15††

AFRICAN STUDIES
College of Liberal Arts and Sciences

THE AFRICAN STUDIES FACULTY 1981-82

Davis, R.H., Jr., Director; Cailler, B.; Closson, D.A.; Cohen, R.; Der-Houssikian, H.; du Toit, B.M.; Hansen, A.; Hill-Lubin, M.A.; Kotey, P.F.A.; Kuntz, P.; Lemarchand, R.; Lockhart, M.; McMillan, D.; Niddrie, D.L.; Poynor, R.; Spring, A.

The African Studies Faculty consists of a total of 48 members from nineteen departments, including the sixteen faculty members listed above, who are responsible for teaching most of the courses with exclusive African content.

The Center for African Studies offers a Certificate in African Studies. This Certificate is taken in conjunction with a departmental or interdisciplinary major leading to the bachelor's degree in the College of Liberal Arts and Sciences, College of Agriculture, College of Education, College of Fine Arts, College of Journalism and the College of Business Administration.

Certificate Requirements

A student who wishes to obtain the Certificate must have a minimum of 30 hours distributed as follows:

A: The following 4 courses (12 credits)
AFS 2002 The African Experience—An Introduction to African Studies
HUM 2420 African Humanities
FOL 3730 Language in Modern Africa
AFS 4935 African Studies Senior Integrative Seminar

B: Select one course from the following (3 credits)
HUM 2424 African Cultures and Literatures
ARH 3520 Arts of Black Africa
LIT 4328 African Literature in English

C: Select two courses from the following (6 credits)
AFH 3100 Africa to 1800
AFH 3200 Africa Since 1800
CPO 3204 African Politics
GEA 3600 Geography of Africa
ANT 4352 Africa: Traditional Peoples and Culture

D: In addition to the above the student should take a minimum of 9 credits of African oriented courses. Such courses must be approved by the Director of the Center.

Students may plan their programs in such a way that the hours required under Sections A-D (above) may count towards the hours required for the bachelor's degree.

COURSES

AFS 2002 The African Experience—An Introduction to African Studies. F.
Credits: 3
An introductory interdisciplinary study of African society and culture that examines the richness, diversity, and time-depth of African civilizations.

AFS 4905 Individual Work. F, S, SS.
Credits: 1 to 9
May be repeated with a change of content for a maximum of 9 credits.

AFS 4935 African Studies Interdisciplinary Seminar. S.
Credits: 3; Prereq: Upper-division standing or approval of instructor.
A research seminar on a selected interdisciplinary theme. May be repeated for credit when course theme is different up to a maximum of 9 credits.

FOL 3730 Language in Modern Africa. F, S.
Credits: 3
Course deals with various aspects of language in Africa.

Others

Other courses with African content are listed in this catalog under the following units: Agriculture, Anthropology, Art, Botany, Economics, Education, English, Food and Resource Economics, Foreign Languages, Geography, History, Humanities, Linguistics, Music, Political Science, Romance Languages and Literature, Sociology and Wildlife Ecology.

Applications

Students who are interested in the Certificate program should write to Dr. Hunt Davis, Director, Center for African Studies, 470 Grinter Hall, University of Florida, Gainesville, Fl. 32611.

AFRO-AMERICAN STUDIES
College of Liberal Arts and Sciences

Foreman, R.C., Director

Core Courses

AFA 2000 Introduction to Afro-American Studies. F, S, SS.
Credits: 3
An integrative interdisciplinary exploration of selected themes and representative materials in the literature, music, and art of the Afro-American experience, emphasizing continuity and change in the cultural lifeways of people of African origin.

AFA 4905 Individual Study. F, S, SS.
Credits: 1 to 5; Prereq: Approval of director of the Afro-American Studies program.
Directed individual reading or research on topics in Afro-American Studies.

AFA 4936 Afro-American Studies Senior Integrative Seminar I. F, SS.
Credits: 3; Prereq: Senior standing or permission of the director of the Afro-American Studies program.
An examination of bibliographic resources and an analysis of theory, method, and special problems in the field of Afro-American Studies.

AFA 4937 Afro-American Studies Senior Integrative Seminar II. S.
Credits: 3; Prereq: ASC 4936 or permission of the director of the Afro-American Studies program.
A research seminar providing directed investigation on topics of interdisciplinary interest to scholars in diverse fields.

Elective Courses (See descriptions under departmental listings.)

††Grading is on S-U basis only.

AGRICULTURAL ENGINEERING

LIT 3321 Ethnic Literature.
Credits: 3

LIT 3342 Afro-American Literature.
Credits: 3

ECP 4143 Blacks in the American Economy.
Credits: 3

AFH 3100 Africa to 1800.
Credits: 3

AMH 4572 Reconstruction and Race Reelations, 1862 to the Present.
Credits: 3

AMH 4579 Colloquium, History of the Afro-American.
Credits: 3

MUH 4116 History of Jazz.
Credits: 3

MUH 4561 Music of Black Americans.
Credits: 3

PUP 4003 Issues in American Politics.
Credits: 3

PUP 4313 Minorities and Change in American Politics.
Credits: 3

SOC 2020 Social Problems.
Credits: 3

SOC 3745 Minorities in American Society.
Credits: 3

SOC 4720 Black America: Current Problems.
Credits: 3

AGRICULTURAL ENGINEERING
College of Agriculture
College of Engineering

INSTRUCTIONAL STAFF 1981-82

Isaacs, G. W., Chairman; Bagnall, L.O.; Baird, C.D.; Bottcher, A.B.; Buffington, D.E.; Campbell, K.L.; Chau, K.V.; Choate, R. E.; Fluck, R.C.; Jones, J.W.; Mishoe, J.W.; Myers, J.M.; Norstedt, R.A.; Overman, A.R.; Shaw, L.N.; Shoup, W.D.; Smajstrla, A.G.; Smerage, G.H.; Zachariah, G.L.

AGE 4012 Analytical and Professional Methods for Agricultural Engineering. F.
Credits: 3
Creative and functional design methods; economic principles, management techniques and systems analysis for agricultural engineering systems; professional responsibilities of agricultural engineers.

AGE 4023 Agricultural Energetics. S.
Credits: 2
Energy and agriculture, identification and measurement of energy flows in agricultural systems, concepts and tools, relationships, evaluation of alternatives.

AGE 4112 Agricultural Tractors and Power Units. S.
Credits: 3; Prereq: EML 3100 and AGE 4012.
Functional requirement, characteristics, and design of tractive, mobile, and stationary agricultural power units.

AGE 4121 Agricultural Field Machines. F.
Credits: 4; Prereq: EGM 3420 and EGM 3520; AGE 4012.
Machines and mechanized systems for agricultural production; functional requirements, operating characteristics, and component design including mechanical and hydraulic drives.

††Grading is on S-U basis only.

AGE 4142 Hydraulic Power Transmission and Control Systems. F.
Credits: 2; Prereq: Engineering Classification or permission from instructor.
Transmission and control of loads with hydraulic power circuits, controls, activators, motors, and fluid-servo systems. Application of agricultural and industrial machinery.

AGE 4212 Soil and Water Conservation Engineering. F.
Credits: 3; Prereq: EGN 3353 or ECI 3213.
Basic hydrology; flow through porous media, flood routing and grade control structures for soil and water conservation.

AGE 4232 Drainage and Irrigation Engineering. S.
Credits: 3; Prereq: EGN 3353 or ECI 3213.
The design of agricultural land drainage and irrigation systems.

AGE 4321C Environmental Control Design for Agricultural Structures. S.
Credits: 3; Prereq: AGE 4411, AGE 4612, EGM 3520.
Engineering design and analysis of environmental modification systems and structures for the production of plants and animals and the processing and storage of food products.

AGE 4411C Food and Agricultural Process Engineering. S.
Credits: 3; Prereq: AGE 4612C.
Principles of handling and processing food and agricultural products with emphasis on the functional requirements and design of equipment and systems.

AGE 4413C Postharvest Operations Engineering. W.
Credits: 3; Prereq: AGE 4612C.
Engineering principles and practices of postharvest operations for the maintenance of quality of agricultural products. Design of systems and facilities.

AGE 4612 Heat and Mass Transfer in Biological Systems. F.
Credits: 3; Prereq: MAP 3302.
Transfer phenomena, steady and unsteady state heat conduction, radiation, free and forced convention, mass transfer, psychometrics, thermodynamics of biological processes.

AGE 4712 Animal Waste Management. F.
Credits: 3; Prereq: 4EG or consent of instructor.
Engineering analysis and design of systems for the handling, treatment, utilization and disposal of livestock and poultry wastes. Laboratory analysis of animal wastes, waste waters, receiving waters and soils used as a disposal medium.

AGE 4905 Special Problems in Agricultural Engineering. F, S, SS.
Credits: 1 to 4. May be repeated up to a maximum of 12 credits in the course. Prereq: Recommendation of Department Chairman. Selected problems or projects in the student's major field of engineering study.

AGE 4932 Special Topics. F, S, SS.
Credits: 3; Prereq: permission of instructor.
Variable subject content providing for the study of agricultural engineering topics not offered in other courses. May be repeated up to a maximum of 10 credits.

AGE 4949 Co-Op Work Experience. F, S, SS.
Credits: 1††; Prereq: 4EG Classification; one term industrial employment, including extra work according to preapproved outline.
Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

Engineering: Civil

ECI 4630 Hydrology. F.
Credits: 3; Prereq: COP 3212, STA 3032, ECI 3213 or EGN 3353.
The concept of the hydrologic cycle. The occurrence, distribution, and movement of water over, through, and beneath the earth's surface. Those segments of hydrology pertinent to the design and operation of engineering projects for the control and use of water are emphasized.

GRADUATE COURSES

AGE 5643C Biological and Agricultural Systems Analysis. F.
Credits: 3; Prereq: MAC 3312.
Conceptual and mathematical descriptions of systems; concepts and analysis of system behavior; physiological, populational, agricultural, and environmental applications.

AGE 5646 Biological and Agricultural Systems Simulation. S.
Credits: 3; Prereq: MAC 3312, COP 3110 or 3212.
Prediction of biological and agricultural systems behavior by digital computer simulation of system mathematical models; CSMP and GASP IV languages.

AGE 6031 Instrumentation in Agricultural Engineering Research. F.
Credits: 3

AGE 6152 Advanced Farm Machinery. S.
Credits: 3

AGE 6252 Advanced Soil and Water Management Engineering. F.
Credits: 3

AGE 6332 Advanced Agricultural Structures. S.
Credits: 3

AGE 6442 Advanced Agricultural Process Engineering. F.
Credits: 3

AGE 6905 Individual Work in Agricultural Engineering. F, S, SS.
Credits: 1 to 4; max. of 6.

AGE 6910 Supervised Research. F, S, SS.
Credits: 1 to 5††

AGE 6931 Seminar. F, S.
Credits: 1††

AGE 6933 Special Topics in Agricultural Engineering. F, S, SS.
Credits: 1 to 4, max. 6

AGE 6940 Supervised Teaching. F, S, SS.
Credits: 1 to 5††

AGE 6971 Master's Research. F, S, SS.
Credits: 1 to 15††

AGE 6986 Research Methods in Agricultural Engineering. S.
Credits: 3

AGRICULTURAL AND EXTENSION EDUCATION
College of Agriculture

INSTRUCTIONAL STAFF 1981-82

Beeman, C.E., Chairman; App, J.L.; Arrington, L.R.; Becker, W.J.; Cole, M.J.; Cheek, J.G.; McGhee, M.B.; Ryan, S.F.; Scanlon, D.C.; Smith, M.J.; Straughn, A.A.; Summerhill, W.R.; Taylor, C.L.; Woeste, J.L.; Warnock, P.J.

AEE 3200 Instructional Techniques in Agricultural Education. F, S, SS.
Credits: 3; Prereq: AEE 3323.
Introduction to general techniques of teaching, selection of procedures, instructional resource management, learning environment and activities, student-teacher rapport, media and materials, and evaluation.

AEE 3313 Development and Role of Extension Education. F, SS.
Credits: 3
Extension philosophy, programs, methods and leadership principles; history of federal, state and

local leadership in the development of the cooperative extension service.

AEE 3323 Development & Philosophy of Agricultural Education. F, S, SS.
Credits: 3
An analysis of evolving concepts and philosophies of agricultural education programs with emphasis upon history, legislation, and principles underlying organization and practice.

AEE 4224 Special Methods in Teaching Vocational Agriculture. S, SS.
Credits: 3; Prereq: AEE 3200 and AEE 3323; Coreq: AEE 4424.
Organization of the subject matter and methods of teaching agriculture.

AEE 4227 Laboratory Practices in Teaching Agricultural Education. F, SS.
Credits: 2; Prereq.: AEE 3323, AEE 3200, MAG 3220, MAG 4225.
Laboratory practices in teaching mechanics and other operative skills, conducting field and laboratory classes, providing space and teaching facilities.

AEE 4424 Agricultural Youth Programs. F, SS.
Credits: 3; Prereq: AEE 3323 or 3313.
Designed to develop understanding and abilities in conducting 4-H, FFA, and other agricultural youth programs.

AEE 4504 Organization of Agricultural Education Programs. F, S, SS.
Credits: 3; Prereq: AEE 3323.
Principles and practices used in designing courses of instruction for effective teaching and total program development.

AEE 4624 Career and Pre-Vocational Education in Agriculture. F, SS.
Credits: 2; Prereq: AEE 3323.
Philosophy and operational procedures of career and pre-vocational education in agriculture with particular emphasis on the Junior High or Middle School agriculture program, program design, objectives, articulation with existing programs, clientele, methods and procedures.

AEE 4905 Individual Work in Agricultural and Extension Education. F, S, SS.
Credits: 1 to 5; Prereq: Consent of the Instructor.
Topics and special problems selected fom such fields as 4-H and FFA work, demonstrations, farm and home management, rural development, and preschool planning and post school evaluation and planning.

AEE 4941 Full Time Practical Work Experiences in Agricultural and Extension Education. F, S, SS.
Credits: 1 to 3††; Prereq: Prior arrangements with advisor, approval of Department Chairperson and Dean.
Practical work must be a new experience and related to the field of study.

AEE 4942 Agricultural and Extension Education Practicum. F, S.
Credits: 4 to 8; Prereq: Senior standing and consent of the department chairperson.
An individualized program whereby students are apprenticed to proper officials to gain practical experience in agribusiness and natural resources education, agricultural and extension programs at the County level and agribusiness experience in selected agricultural organizations.

AEE 4943 Agricultural Extension Practicum. F, S, SS.
Credits: 4 to 8; Prereq: Senior standing and consent of the Department Chairperson.
An individualized program whereby students are apprenticed to proper officials to gain practical experience in the agricultural extension program at the county level.

GRADUATE COURSES

AEE 5643 Comparative Extension Education.
Credits: 2

AEE 6206 Advanced Instructional Techniques in Agricultural and Extension Education.
Credits: 3

AEE 6300 Methodology of Planned Change.
Credits: 3

AEE 6325 History and Philosophy of Agricultural Education.
Credits: 2

AEE 6417 Administration and Supervision of Agricultural Education.
Credits: 2

AEE 6426 Development of a 4-H Volunteer Leadership Program
Credits: 3

AEE 6512 Program Development in Extension Education
Credits: 3

AEE 6521 Group Dynamics in Agricultural and Extension Education
Credits: 3

AEE 6523 Community and Rural Development.
Credits: 3

AEE 6524 Citizen Participation in Decision-Making
Credits: 3

AEE 6541C Developing Instructional Materials in Agricultural and Extension Education.
Credits: 3

AEE 6552 Evaluating Programs in Extension Education.
Credits: 3

AEE 6606 Principles and Practices of Extension Education.
Credits: 2

AEE 6611 Agricultural and Extension Adult Education.
Credits: 2

AEE 6704 Extension Administration and Supervision.
Credits: 3

AEE 6905 Problems in Agricultural and Extension Education.
Credits: 1 to 3; max of 8.

AEE 6912 Non-thesis Research in Agriculture and Extension Education.
Credits: 1 to 3; max of 6.

AEE 6933 Seminar in Agricultural and Extension Education.
Credits: 1; max of 3.

AEE 6935 Topics in Agricultural and Extension Education.
Credits: 1 to 3

AEE 6940 Supervised Teaching.
Credits: 1 to 5††

AEE 6946 Supervised Occupational Experiences in Agricultural Education.
Credits: 2

AEE 6971 Master's Research.
Credits: 1 to 15††

AGRICULTURE
College of Agriculture

GENERAL AND CROSS-DEPARTMENTAL COURSES

AGG 1101 Introductions to Careers in the Agricultural Sciences. W, S.
Credits: 2
An introduction to the various educational programs within the Institute of Food and Agricultural Sciences with special emphasis on programs of study, academic requirements, professional standards, and career opportunities.

AGG 2501 Agriculture in the Environment. F, S, SS.
Credits: 2
Non-technical lectures on the comparative relationship of agriculture to ecology and environmental impact.

AGG 4325 Low Energy Technology in Agriculture. F.
Credits: 3
New and developing technologies and production methods related to energy consumption in agriculture are treated in an in-depth manner. Energy alternatives and techniques for conservation are discussed.

AGG 4603 Agricultural Communications. F, S.
Credits: 3
Lecture-laboratory. Basic instruction for agriculture majors in use of mass media and specialized media in agricultural information programs.

AGG 4932 Special Topics.
Credits: 1-3
Variable subject content providing for the study of agricultural topics not offered in other courses.

GRADUATE COURSE

AGG 5813 Farming Systems Research and Extension Methods.
Credits: 3

AGRONOMY
College of Agriculture

INSTRUCTIONAL STAFF 1981-82

Dean, C.E., Chairman; Allen, L.H.; Baltensperger, D.D.; Barnett, R.D.; Bennett, J.M.; Boote, K.J.; Brecke, B.J.; Brolmann, J.B.; Buhr, K.L.; Chambliss, C. G.; Chourey, P.S.; Currey, W.L.; Dudeck, A.E.; Dunavin, L.S.; Duncan, W.G.; Edwardson, J.R.; E nnis, W.B., Jr.; Fritz, G.J.; Gallaher, R.N.; Gardner, F.P.; Garrard, L.A.; Gaskins, J.H.; Gorbet, D.W.; Green, V.E., Jr.; Haller, W.T.; Hiebsch, C.K.; Hinson, K.; Horner, E.S.; Jones, D.W.; Kalmbacher, R.S.; Knauft, D.A.; Kretschmer, A.E., Jr.; leGrand, F.; McCloud, D.E.; Mislevy, P.; Mott, G.O.; Norden, A.J.; Ocumpaugh, W.R.; Pfahler, P.L.; Popenoe, H.L.; Prine, G.M.; Quesenberry, K.H.; Rodgers, E.G.; Ruelke, O.C.; Schank, S.C.; Schroder, V.N.; Sinclair, T.R.; Smith, R.L.; Sutton, D.L.; Teem, D.H.; West, S.H.; Whitty, E.B.; Wilcox, M.; Wright, D.L.

AGR 3210 Field Crop Science. F.
Credits: 3
Fundamentals of adaptation, improvement, production, and utilization of major field crops.

AGR 3303 Genetics. F, S, SS-A.
Credits: 3; Prereq: An introductory course in Botany, Zoology, or Biological Sciences.
The science and physical basis of inheritance, genes as units of heredity and development, and the qualitative and quantitative aspects of genetic variation.

AGR 4001C Man, Food, and Environment. S.
Credits: 2; Prereq: A basic course in agriculture, biological sciences, or natural resources.
World population, land resources, and agricultural ecosystems. Crop climatology, crop geography, and crop yields. Present and projected levels of food production in the developed and developing countries.

††Grading is on S-U basis only.

AMERICAN STUDIES

AGR 4231 Forage Science and Range Management. S.
Credits: 4
Scientific and technological developments in the selection, production, and utilization of forage crops, and in the development and management of grazing areas.

AGR 4242 Rice. S.
Credits: 3; Prereq: AGR 3210 and BOT 3503, or equivalent.
Characteristics, production practices, pest control, physiological development, processing, and utilization of world rice crop.

AGR 4244 Sugarcane. F. (Even years)
Credits: 2; Prereq: AGR 3210 and BOT 3503.
Morphology and anatomy of sugarcane. Role of plant nutrients and cultural practices. Diagnostic techniques. Principal diseases and pests affecting yield.

AGR 4246 Oilseed Crops. S.
Credits: 2; Prereq: AGR 3210, BOT 3023, or equivalent.
Economically important oilseed plants, with emphasis on characteristics, production practices, physiological and biochemical development, processing, and utilization.

AGR 4248 Fiber Crops
Credits: 2; Prereq: AGR 3210, BOT 3503, or equivalent.
Characteristics, production practices, physiological development, processing, and utilization of plant fibers having commercial importance in their natural or modified form.

AGR 4321 Plant Breeding. F.
Credits: 3, Prereq: AGR 3303.
The science and technology of plant improvement.

AGR 4614C Seed Technology. SS-A.
Credits: 3; Prereq: BOT 3503 and BOT 3503L, or its equivalent.
Characteristics and components of seed production and processing with emphasis on agricultural seed and the seed industry.

AGR 4905 Problems in Agronomy. F, S, SS-A, SS-B.
Credits: 1 to 3. Maximum 4; Prereq: Minimum of one course in Agronomy and consent of instructor.
Scientific study of individual problems in crop production, weed science, genetics, or plant breeding.

AGR 4931 Agronomy Seminar. F.
Credits: 1
Preparation, presentation, discussion of latest Agronomic advances. Required of all students majoring in Agronomy.

AGR 4941 Work Experience in Agronomy. F, S, SS-A, SS-B.
Credits: 1 to 3; S-U Grade only. Prereq: Prior arrangement with adviser and approval of Department Chairman and Dean.††

The Agronomy Department also offers additional courses as identified below which are listed under the heading of "Plant Sciences — General" in this catalog:

PLS 2031 Fundamentals of Crop Production. F, SS-A.
Credits: 3
(Offered jointly with the Vegetable Crops Department).

PLS 4601 Weed Science. F.
Credits: 3

PLS 4613 Aquatic Weed Control. F.
Credits: 2

PLS 4701 Field Plot Techniques. S.
Credits: 2

PLS 5652 Herbicide Technology. S.
Credits: 3

PLS 6623 Weed Ecology. S. (Odd Years)
Credits: 2

GRADUATE COURSES

AGR 6233 Tropical Pasture and Forage Science. F.
Credits: 4

AGR 6237 Agronomic Methods of Forage Evaluation. SS-B.
Credits: 3

AGR 6307 Advanced Genetics. F. (Odd years).
Credits: 2

AGR 6311 Population Genetics. S. (Odd years).
Credits: 2

AGR 6323 Advanced Plant Breeding. S. (Even years).
Credits: 3

AGR 6353 Cytogenetics. F. (Even years).
Credits: 3

AGR 6380 Genetics Seminar.
Credits: 1

AGR 6422 Crop Nutrition. F.
Credits: 2

AGR 6442 Physiology of Agronomic Plants. S.
Credits: 3

AGR 6511 Crop Ecology. F.
Credits: 4

AGR 6661C Sugarcane Processing Technology. F. (Odd years).
Credits: 2

AGR 6751 Biochemistry of Herbicides. S. (Even years).
Credits: 2

AGR 6905 Agronomic Problems. F, S, SS-A, SS-B.
Credits: 1 to 5; max. of 8 credits.

AGR 6910 Supervised Research. F, S, SS-A, SS-B.
Credits: 1 to 5††

AGR 6932 Topics in Agronomy. SS-A.
Credits: 2 to 3; max. of 8 credits.

AGR 6933 Graduate Agronomy Seminar. F, S.
Credits: 1; max. 3.

AGR 6940 Supervised Teaching. F, S, SS-A, SS-B.
Credits: 1 to 5††

AGR 6971 Master's Research. F, S, SS-A, SS-B.
Credits: 1 to 15††

AGR 7980 Doctoral Research. F, S, SS-A, SS-B.
Credits: 1 to 15††

††Grading is on S-U basis only.

AMERICAN STUDIES
College of Arts and Sciences

MAJOR COMMITTEE 1980-81

Conroy, S.S., Chairman; Chalmers, D.M.; Foreman, R.C.; Hill, S.; Thompson, I.; Turner, E.R.; Williams, D.E.

Majors will be required to take at least thirty-eight (38) hours of acceptable courses — half of which must be numbered 3000 or above — including the required American Studies courses AMS 2030, Introduction to American Studies, AMH 4041 Studies in American Civlization, AMH 4935 Undergraduate Seminar in American Civilization. Majors are also required to take a sequence of courses reflecting the temporal span of American civilization. No more than eighteen hours from the Humanities or the Social Sciences and no more than four courses from one discipline may be submitted.

Acceptable Humanities courses include ARH 3605, 3613, 3614; EDF 3514, 4542; AML 2020, 2021, 3113, 4210, 4301; ENG 3221, 3222, 4745; LIT 3321, 3342; AMH 2010, 2020, 3315, 3421, 3422, 3423, 4041, 4110, 4130, 4160, 4170, 4172, 4220, 4231, 4270, 4307, 4309, 4402, 4403, 4423, 4444, 4460, 4530, 4546, 4547, 4572, 4578, 4579, 4935; HES 4103; HIS 4472; MUH 4116, 4561; PHP 3780; PHH 4703; REL 3121, 3122, 3130, 3322, 4120, 4134.

Acceptable Social Science courses include ANT 2410, 4153, 4312; BES 2351; ECO 2620, 4622; ECP 4143; GEA 3210, 3223, 3270; INR 3102, 3103, 4114; POS 2041, 2112, 3122, 3142, 3173, 3413, 3443, 3606, 4603, 4604, 4624; POT 3314; PUP 4003, 4313, 4404; MAF 4501; SOC 2000, 2020, 3745, 4720; SPC 4620.

Acceptable Interdisciplinary courses include AFA 2000, 4936, 4937.

Students seeking advisement should contact Professor Stephen Conroy in Room 4117, General Purpose Building "A". Honors will be awarded to any student who earns a grade point average of 3.5 or higher in upper division and major work and completes an individual project in AMH 4935 of honors caliber.

American History

AMH 3315 American Popular Culture to 1970. S, SS.
Credits: 3
A survey of the interests and amusements of the common man in the United States from the camp meeting to the rock festival, from the tent show to the television program.

AMH 4041 Studies in American Civilization. F, S.
Credits: 3
Examination of selected periods of U.S. history using concepts and data from several related disciplines. Required for the American Studies Program. May be repeated with a change of content up to a maximum of 8 credits.

AMH 4935 Undergraduate Seminar in American Civilization. S.
Credits: 3
A continuation of AMH 4041 with emphasis on individual projects. May be repeated with a change of content up to a maximum of 8 credits.

American Studies

AMS 2030 Introduction to American Studies. F, S, SS.
Credits: 3
An introduction to the problems, themes and methods of American Studies. Concepts such as national character and popular culture are examined, and unifying myths and symbols such as the frontier are used to illustrate the ways in which American civilization as a whole may be approached.

AMS 4905 Individual Study. F, S, SS.
Credits: 1 to 3
Individual interdisciplinary projects in American Studies. May be repeated with a change of content up to a maximum of 9 credits.

ANIMAL SCIENCE
College of Agriculture

INSTRUCTIONAL STAFF 1981-82

Wallace, H.D., Chairman; Ammerman, C.B.; Asquith, R.L.; Bazer, F.W.; Carpenter, J.W.; Coffey, M.T.; Combs, G.E., Jr.; Conrad, J.H.; Feaster, J.P.; Fields, M.J.; Hargrove, D.D.; Hentges, J.F., Jr.; Koger, M.; Lee, R.W.; Lieb, S.; Loggins, P.E.; McDowell, L.R.; Moore, J.E.; Olson, T.A.; Ott, E.A.; Palmer, A.Z.; Sharp, D.C.; Shirley, R.L.; Wakeman, D.L.; Warnick, A.C.; West, R.L.

Animal Science

ANS 2002 The Meat We Eat. F, S.
Credits: 2
Only open to students not majoring in Animal Science. Consumer oriented. Meat as a food, its inspection for wholesomeness, meat grading, identification, processing, selection, preparation and serving. Preparation of economical, nutritious and palatable meals centered around meat will be emphasized.

ANS 3079 Relationship of Form to Function in Horses. F.
Credits: 1; Prereq: ANS 3236C or ANS 4234C or consent of instructor.
Principles of conformation and anatomy affecting the performance of the horse and essentials of animal selection.

ANS 3236C Horse Production. S, SS.
Credits: 3
Basic and applied principles of Horse Production.

ANS 3612C Evaluation and Utilization of Meat Animals and Carcasses. F, S.
Credits: 4; Prereq: ASG 3003.
Evaluation of slaughter animals and carcasses; the marketing, processing and utilization of meat and meat by-products.

ANS 3934 Junior Seminar. F, S.
Credits: 1
An overview of the livestock industry, its role in meeting the needs of an expanding human population, and career requirements and opportunities.

ANS 4234C Horse Enterprise Management. S.
Credits: 3; Prereq: ASG 3402C, VES 3202C or permission of instructor.
Management principles essential to the planning and operation of commercial Horse Enterprise.

ANS 4238 Horse Psychology and Training. F.
Credits: 2; Prereq: ANS 3236C or ANS 4234C or consent of instructor.
Basic principles and skills in the use of psychology and training techniques for breaking the young horse.

ANS 4242C Beef Cattle Science and Range Management. F, SS.
Credits: 4; Prereq: AGR 4231C, ASG 3402C, SOS 3022C.
Application of scientific principles in planning for management of beef cattle enterprises with emphasis on utilization of soil and forage resources including rangeland, cropland and tame pastures.

ANS 4264C Swine Production. S, SS.
Credits: 2; Prereq: ASG 3402C.
Selection, feeding and management of hogs; forage crops and grazing, disease and parasite control.

ANS 4274C Sheep Production. SS.
Credits: 2; Prereq: ASG 3402C.
Sheep production and management in Florida and the United States, marketing and wool grading.

ANS 4615 Meat Selection and Grading. F, S.
Credits: 1; Maximum 2 credits.
Fundamentals in grading and classifying carcasses and cuts of meat from beef, pork and lamb. Includes field trips to packing plants and exercises in practical grading and selection.

ANS 4635C Meat Processing. S.
Credits: 3; Prereq: FOS 4513 and MAC 1132.
Basic principles of the use of muscle as food, process technology, meat inspection, regulations, quality control procedures and marketing aspects.

ANS 4905 Problems in Animal Science. F,S.
Credits: 1, Maximum 2 credits††; Prereq: Consent of instructor.
A problem will be assigned to qualified students including care and management of livestock and will be conducted at a livestock unit.

ANS 4941 Full-Time Practical Work Experience in Animal Science. F, S, SS.
Credits: 1 to 3††; Prereq: Prior arrangements with adviser, approval of Department Chairman and Dean. Credit will be earned on the basis of one hour per month of employment.

GRADUATE COURSES

ANS 5446 Animal Nutrition.
Credits: 3; Prereq: ASG 3402C, BCH 3023 or permission of instructor.

ANS 6288 Experimental Technics and Analytical Procedures in Meat Research.
Credits: 3

ANS 6368 Quantitative Genetics.
Credits: 3

ANS 6388 Genetics of Animal Improvement.
Credits: 3

ANS 6448 Nitrogen and Energy in Animal Nutrition.
Credits: 3

ANS 6452 Principles of Forage Quality Evaluation.
Credits: 2

ANS 6458C Advanced Methods in Nutrition Technology.
Credits: 3

ANS 6472 Vitamins.
Credits: 3

ANS 6636 Meat Technology.
Credits: 3

ANS 6711C Equine Nutrition and Physiology.
Credits: 3

ANS 6715 Ruminant Nutrition and Digestive Physiology.
Credits: 2

ANS 6721 Swine Nutrition.
Credits: 2

ANS 6723 Mineral Nutrition and Metabolism.
Credits: 3

ANS 6751C Physiology of Reproduction.
Credits: 3

ANS 6905 Problems in Animal Science.
Credits: 1 to 4; Maximum 8 credits.

ANS 6910 Supervised Research.
Credits: 1 to 5††

ANS 6932 Topics in Animal Science.
Credits: 3

ANS 6933 Graduate Seminar in Animal Science.
Credits: 1

ANS 6940 Supervised Teaching.
Credits: 1 to 5††

ANS 6971 Master's Research.
Credits: 1 to 15††

ANS 7980 Doctoral Research.
Credits: 1 to 15††

ANIMAL SCIENCE-GENERAL
College of Agriculture

Cross Departmental Courses
Wallace, H.D., Chairman.

The three Departments of Animal, Poultry, and Dairy Sciences have combined the following cross-departmental courses taught by the staff of the three Departments.

ASG 3003C Introduction to Animal Science. F, S, SS.
Credits: 4
Market types and classes of livestock; breeds of livestock, dairy and poultry, and the fundamentals of Animal, Dairy and Poultry Science.

ASG 3313 Principles of Animal Breeding. S, SS.
Credits: 3; Prereq: AGR 3303, ASG 3003C.
The basic principles of breeding and genetics as applied to animals used for the production of food.

ASG 3402C Principles of Animal Nutrition and Feeding. F, S, SS.
Credits: 4; Prereq: BCH 3023 or CHM 2043C.
The nutrients required by animals, their function and the processes of their utilization, livestock feeds, and their use in ration formulation.

ASG 4334C Reproduction in Farm Animals. S, SS.
Credits: 3; Prereq: VES 3202C or permission of instructor.
Principles of reproduction in avian and mammalian farm animals including factors related to the estrous cycle, pregnancy, semen-production, artificial insemination, pregnancy diagnosis and environmental factors affecting reproduction.

ASG 4931 Seminar. F, S, SS.
Credits: 1; Prereq: Senior classification.
Preparation and presentation of papers on an approved subject of major interest.

ASG 4992 Livestock Judging. F, S.
Credits: 1; Maximum 2 credits. Prereq: ASG 3003C.
Special training in livestock and dairy judging and classification.

GRADUATE COURSES

ASG 5221 Animal Production in the Tropics. F.
Credits: 3; Prereq: ANS 4242C, ANS 4264C, DAS 3211 or permission of instructor.

ANTHROPOLOGY
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Bernard, H.R., Chairperson; Margolis, M.L., Assoc. Chairperson; Burns, A.F.; Cohen, R.; Dougherty, M.; Doughty, P.L.; du Toit, B.M.; Eddy, E.M.; Fairbanks, C.H.; Gladwin, C.; Hansen, A.; Hardman-de-Bautista, M.J.; Harris, M.; Kimball, S.T.; Kramer, S.; Lawless, R.; Lieberman, L.S.; Magnarella, P.J.; Maples, W.R.; Markel, N.N.; Milanich, J.T.; Nunez, T.A., Jr.; Oliver-Smith, A; Purdy, B.A.; Rice, P.M.; Safa, H.I.; Schmink, M.; Sigler-Lavelle, B.J.; Spring, A.; Taylor, C.D.; von Mering, O.O.; Wagley, C.W.; Wing, E.S.

An undergraduate departmental major must have a minimum of 34 semester hours in anthropology, including ANT 2410 or ANT 2402, but not both, ANT 2141, ANT 2610, and ANT 3S11. Of the remaining 21 hours, 15 must be 3000 level and above. Anthropology courses must include at least one course in a theoretical area, one in a prehistoric or ethnographic area, and one in methods of anthropology. In addition, all anthropology majors are required to take either STA 3013, Statistics for the Social Sciences or STA 3023-24, Introduction to Statistics. The statistics course is considered a part of the student's elective program.

All undergraduates should contact the department undergraduate coordinator soon after enrolling in the University. Transfer credits in anthropology must be approved in writing by the undergraduate coordinator to be counted

††Grading is on S-U basis only.

towards the degree program. To be admitted as a major, students normally must have a 2.5 overall and a 3.0 social science grade point average.

University Honors Program

Students in the University Honors Program may take the honors section of ANT 2410H, Cultural Anthropology. University Honors students are also eligible at the sophomore level and above to take, with the permission of the instructor, any graduate level course. University Honors students are encouraged to continue in the anthropology department into the Departmental honors program described below.

DEPARTMENTAL HONORS

Departmental honors may be earned by students in the department who have at least a 3.5 GPA in their upper division courses, and 3.5 GPA in Anthropology courses, who, with the permission of the faculty undergraduate honors adviser, elect to take an advanced seminar, in a topical area of their choice. In a subsequent semester students must register for three hours of ANT 4914 (Departmental Major Honors). Under the direction of the honors adviser, students will write an honors essay on a topic suggested by the previous advanced course. The undergraduate honors adviser is appointed from the faculty by the department chairperson.

African Studies

AFS 2002 The African Experience — An Introduction to African Studies.
Credits: 3
An introductory interdisciplinary study of African society and culture that examines the richness, diversity, and time-depth of African civilizations.

Marriage and Family

MAF 2402 Human Sexuality and Society.
Credits: 3
The course examines (1) development of an individual's sexuality and sexual identity throughout the life cycle and (2) aspects of sexuality cross-culturally. Sexual anatomy and functioning, gender roles, and the interplay of behavior and values (sexual ethics) are discussed.

Anthropology

ANT 2141 The Development of World Civilization.
Credits: 3
Discussion of archeological evidence for the development of civilization in its regional variants from the earliest beginning to the dawn of written history. Analyzes causes of cultural development in Old and New World Centers.

ANT 2149 Lost Tribes and Sunken Continents.
Credits: 3
This course examines the claims of popular writers in archeology that "mysterious" archeological sites, statues, etc. were influenced by outer space visitors. Problems of diffusion. Discussed are Stonehenge, pyramids, Easter Island, "Maya spaceships", Atlantis and Mu, Nazca Linos and so forth.

ANT 2332 Peoples of Latin America.
Credits: 3
An introduction to Latin American Peoples; native culture areas and high civilizations. Metropolitan Hispanic culture and cultural syncretism in selected and geographically varied nation-states, selected urban and peasant subcultures.

ANT 2402 Anthropology and Modern Life.
Credits: 3
The anthropological perspective, theories, methods, applied to contemporary circumstances. The individual and the group, social groups, institutions, world view, cross-cultural perspectives, cultural transformations.

ANT 2410 Cultural Anthropology.
Credits: 3
The nature of culture. The content of cultures; languages, subsistence, economic structures, art and religion in human societes. The integration of culture.

ANT 2451 Racial and Cultural Minorities.
Credits: 3
A survey of racial and cultural minority group contacts, inter-group relations, conflicts, the nature of prejudice, and the problems of minority groups in the contemporary world. Examples will be taken from North and South America, Africa, and Asia.

ANT 2610 Language and Culture.
Credits: 3
The role of speech in individual, social and cultural settings. Linguistic basis of thought and perception. Mythological studies and analysis. Bilingualism, biculturalism and minority language politics in current perspective.

ANT 2930 Special Topics in Anthropology.
Credits: 3
Rotating topics. With permission, may be repeated as topics change. Maximum of six credits. Courses will present students with opportunities to study major social institutions in cross-cultural perspective. These will include religion, crisis and disasters, sexual behavior, social problems.

ANT 3142 Old World Prehistory.
Credits: 3
Archeological evidence for the evolution of human culture — Paleolithic cultures of Europe and Asia, domestication of plants and animals. Evolution of civilizations of Mesopotamia, Egypt, Southeast, Asia, China, India, Africa, Aegean, Europe — comparison of causes and trends.

ANT 3144 New World Prehistory.
Credits: 3
Peopling of North, Central, and South America. Development of civilization in major culture areas; comparison of archeological materials and trends of cultural evolution.

ANT 3241 Anthropology of Religion.
Credits: 3
Cross cultural survey of beliefs and practices dealing with the supernatural, magic, and religion. Conceptualization of the supernatural. Sacred specialists, their function and social position. Theories of comparative religion in the light of anthropological data.

ANT 3245 Death and Dying in Cross-Cultural Perspective.
Credits: 3
An examination of attitudes, beliefs, and behaviors associated with death and dying in various cultures of the world. A comparative approach to such topics as terminal illness, death rituals, mourning, grief, suicide, homocide, abortion, euthanasia, and life after death.

ANT 3302 Sex Roles: A Cross-Cultural Perspective.
Credits: 3
Anthropological perspective on division of labor by sex in different world societies. Variation in sex roles in economic, religious, political domains. Socialization and the life cycle.

ANT 3365 Islamic Civilization.
Credits: 3
An understanding of Islam's origin and spread; its belief and ritual; its strength as a sociocultural force.

ANT 3367 Middle East Societies.
Credits: 3
A survey of Middle Eastern peoples and societies, beginning with the rise of Islam to the present and covering the area from Egypt to Iran. Topics covered include Islam, peasant, tribal, and urban society.

ANT 3390 Visual Anthropology.
Credits: 3; Prereq: Basic knowledge of photography or permission of instructor.
Uses photography and film as tools and products of social science. Ways of describing, analyzing and presenting behavior and cultural ideas through visual means. Student projects and laboratory work with visual anthropology.

ANT 3422 Ancestors and Descendants: Kinship and Genealogy.
Credits: 3
An introductory course which examines social behavior concerning relatives, kinship terminologies, and genealogies cross-culturally.

ANT 3432 Cross-Cultural Studies of Cognition.
Credits: 3
A cross-cultural comparison of the cognitive construction of individual life-space, social reality, and world view in primitive, tribal, peasant and contemporary industrial societies. Specifically the course deals with culturally conditioned aspects of intellectual functioning and perceptually based behavior in everyday life.

ANT 3433 Culture and Personality.
Credits: 3
The relationship between culture and personality. Benedict's, Malinowski's, and Mead's contributions, contemporary schools of thought up to and including studies of national character. Methods in culture and personality research.

ANT 3461 Folk Medicine.
Credits: 3
This course is exploratory and serves as an introduction to the traditional medical system of a people as it is influenced by beliefs and actions, nutrients and taboos and facilitated by specialists, folk-medicines, and avoidances. The interrelationships of traditional systems with the germ theory of disease, clinics and medical specialists and material medica are considered.

ANT 3511 Physical Anthropology.
Credits: 4
Human evolution and the formation of races. Relationship with other primates. Human genetics, Anthropometry. Racial differences, distribution and history. Laboratories in human and non-human primate anatomy and physiology.

ANT 3630 Nonverbal Communication.
Credits: 3
This course examines the role of culture in conditioning speaking style and body language. It will examine these as a reflection of cultural norms in general, and the expression of these cultural norms in group and interpersonal communication specifically.

ANT 3710 Anthropology and Modernization.
Credits: 3
The anthropological perspective applied to problems of modernization, urbanization, industrialization, agricultural development, education, national integration, social change and alternative interpretations of development.

ANT 4035 History of Anthropological Theory.
Credits: 3; Prereq: One cultural anthropology course or permission of the instructor.
The history and development of anthropological theory. Methods in anthropological research. Directed reading of major theoretical publications.

ANT 4123 Laboratory Training in Archeology.
Credits: 3; Prereq: an introductory level archeology course.
Processing of data recovered in field excavations; includes cleaning, identification, cataloguing, classification, drawing, analysis, responsibilities of data reporting.

ANT 4124 Field Sessions in Archeology.
Credits: 6; Prereq: 6 hours of anthropology or permission of the instructor.
Excavation and archeological sites, recording of

data, laboratory handling and analysis of specimens, and study of the theoretical principles which underlie field methods and artifact analysis.

ANT 4153 North American Archeology.
Credits: 3
The existing archeological materials relating to prehistoric North American cultures. The origins of the North American Indian. Historic Indian and colonial materials.

ANT 4155 Southeastern United States Archeology.
Credits: 3; Prereq: an introductory level archeology course.
The course surveys archeological materials relating to aboriginal occupation of the Southeastern United States from the Paleo-Indian period to the Historic horizon. Sites, artifacts, and cultural adaptations in the Southeast.

ANT 4158 Prehistoric Peoples of Florida.
Credits: 3
Archeological evidence for the evolution of Indian cultures from 10,000 B.C. to historic period with emphasis on descriptions of regional cultures after 500 B.C. Cultural ecology of different environmental regions, archeological materials, external relationships to Southeast and Circum-Caribbean area.

ANT 4185 Principles of Archeology.
Credits: 3; Prereq: One anthropology course.
The viewpoint and methods of archeology, especially as applied to New World materials. The archeological survey. Methods and techniques of excavation. Systems of chronological analysis.

ANT 4266 Economic Anthropology
Credits: 3; Prereq: One course in anthropology, or permission of instructor.
A consideration of economic philosophies and the behavioral bases of formal economic theories. Cross-cultural studies of production, distribution and consumption, money and the acquisition of goods. The latest materials from cultural ecology, marxism, formalism and substantivism are reviewed.

ANT 4274 Political Anthropology.
Credits: 3; Prereq: An introductory course in the social sciences or permission of the instructor.
The problem of identifying political behavior. Natural leadership in bands, tribes, and small groups. Acephalous societies and republican structures. Kingship and early despotic states. Theories of bureaucracy.

ANT 4312 The North American Indian.
Credits: 3
The peopling of North America. The culture areas of North America. Unique characteristic, institutions, and problems.

ANT 4326 Peoples of Mexico and Central America.
Credits: 3
The settlement and early cultures of the area with an emphasis on the rise of the major culture centers. The impact of European civilization and surviving Indians.

ANT 4336 The Peoples of Brazil.
Credits: 3.
Ethnology of Brazil. Historical, geographic, and socioeconomic material will be covered and representative monographs from the various regions of Brazil will be read. The contribution of the Indian, Portuguese and African to modern Brazilian culture.

ANT 4337 Peoples of the Andes.
Credits: 3
The area-cotradition. The Spanish Conquest. The shaping and persistence of colonial culture. Twentieth-century communities and their social, land tenure, religious, and value systems. Modernization, cultural pluralism, and problems of integration.

ANT 4338 The Tribal Peoples of Lowland South America.
Credits: 3
Survey of marginal and tropical forest hunters and gatherers and horticulturalists of the Amazon Basin, Central Brazil, Paraguay, Argentina, and other areas of South America. Social organization, subsistence activities, ecological adaptations, and other aspects of tribal life will be covered.

ANT 4346 Peoples of the Caribbean.
Credits: 3
Investigation into cultural contact that has taken place in the Caribbean and results of that contact in terms of peoples and sociocultural units produced and processes of cultural change involved.

ANT 4352 Peoples of Africa.
Credits: 3
An anthropological survey of the culture history and ethnographic background of the peoples of Africa. A basis for appreciation of current problems of acculturation, nationalism, and cultural survival and change among African peoples.

ANT 4354 The Anthropology of Modern Africa.
Credits: 3
Study of continuity and change in contemporary African societies with special reference to cultural and ethnic factors in modern nations.

ANT 4403 Environment and Cultural Behavior.
Credits: 3
The interaction of people and their environment as mediated by cultural institutions. Levels of socio-economic adaptation in hunting and gathering, pastoral, and agricultural societies. Warfare and ritual as ecological mechanisms.

ANT 4404 The Nature of Culture.
Credits: 3
An advanced level introduction to theoretical Anthropology. The problems of universal functions. Pattern, structure and process. Models and cultural laws. Illustrative material from current ethnology. Recommended for majors.

ANT 4426 Social Organization.
Credits: 3; Prereq: ANT 2402 or ANT 2410.
Property concepts, forms and complexes. Tribal patterns of government and social control.

ANT 4442 Urban Anthropology.
Credits: 3
A re-examination of basic concepts, models and theories dealing with the nature of the city. The approach is cross-cultural and interdisciplinary.

ANT 4464 Comparative Health Systems.
Credits: 3
An examination of beliefs and practices concerning health and illness in various societies. Disease etiology, role of the healer, concepts of prevention, organization or care, interaction of modern and traditional systems.

ANT 4476 Cults and Secret Societies.
Credits: 3
Study and analysis of the background, structure, and aim of cultural movements described as messianic, Nativistic, cargo, etc.

ANT 4525 Human Osteology and Osteometry.
Credits: 3; Prereq: ANT 3511 and consent of instructor.
Human skeletal identification for the physical anthropologist and archeologist. Techniques for estimating age at death, race, and sex from human skeletal remains. The measurement of human skeleton for comparative purposes.

ANT 4586 Human Evolution.
Credits: 3; Prereq: ANT 3511 and consent of instructor.
The data, methods, and theoretical problems found in human evolution.

ANT 4620 Anthropological Linguistics.
Credits: 3
The methods and techniques of descriptive linguistics. Language structure and process especially related to describing, understanding, and analyzing non-Western languages.

ANT 4905 Individual Work.
Credits: 1 to 5; Prereq: Consent of instructor.
May be repeated to a maximum of 8 hours.

ANT 4907 Research Projects in Social, Cultural and Applied Anthropology.
Credits: 1 to 5; Prereq: Consent of instructor.
May be repeated with change of content up to a maximum of 8 credits.
For students undertaking directed research in supplement of regular course work or on special problems.

ANT 4914 Departmental Honors in Anthropology.
Credits: 3; Prereq: Consent of Undergraduate adviser.
Open to students meeting departmental honors criteria and normally taken in the Senior year. Students will develop special interests and write an essay based upon this research.

ANT 4930 Special Topics in Anthropology.
Credits: 3 to 5; Prereq: Instructor's permission or 10 credits of work in Anthropology.
Rotating topics. With permission, may be repeated as topics change. Maximum of 8 credits.

GRADUATE COURSES

ANT 5175 Historical Archeology.
Credits: 3

ANT 5181 Conservation of Antiquities.
Credits: 3

ANT 5195 Zooarcheology.
Credits: 3

ANT 5196 Cultural Resource Management.
Credits: 3

ANT 5246 Ritual and Symbolic Systems.
Credits: 3

ANT 5255 Peasant Culture and Society.
Credits: 3; Prereq: ANT 2402, ANT 2410 or permission of instructor.

ANT 5267 The Food Crisis and Small Farmers.
Credits: 3

ANT 5303 Women and Development.
Credits: 3

ANT 5336 The Peoples of Brazil.
Credits: 3

ANT 5337 Peoples of the Andes.
Credits: 3

ANT 5338 The Tribal Peoples of Lowland South America.
Credits: 3

ANT 5346 Caribbean Culture Patterns.
Credits: 3

ANT 5352 The Peoples of Africa.
Credits: 3

ANT 5354 The Anthropology of Modern Africa.
Credits: 3

ANT 5423 Kinship and Descent.
Credits: 3

ANT 5465 Culture and Aging.
Credits: 3

ANT 5467 Culture and Nutrition.
Credits: 3

ANT 5477 Human Organization and Change.
Credits: 3

ANT 5479 Theories of Culture Change.
Credits: 3

Descriptions

ARCHITECTURE

ANT 5485 Research Design in Anthropology.
Credits: 3

ANT 5486 Quantitative Methods for Anthropology.
Credits: 3

ANT 5546 Seminar: Human Biology and Behavior.
Credits: 3

ANT 5615 Language and Culture.
Credits: 3

ANT 5624 Introduction to Anthropological Linguistic Field Methods.
Credits: 6

ANT 5675 Laboratory Work in Anthropological Linguistics.
Credits: 1 to 3. Maximum 10 credits.

ANT 5717 Cross-Cultural Studies of Complex Organizations.
Credits: 3

ANT 5724 Ethnographic Methods in Educational Settings.
Credits: 3

ANT 5728 Anthropology and Education.
Credits: 3

ANT 6038 Seminar in Anthropological History and Theory.
Credits: 3

ANT 6127 Laboratory Training in Archeology.
Credits: 3

ANT 6186 Seminar in Archeology.
Credits: 3; maximum 10.

ANT 6188 Advanced Archeological Field Methods.
Credits: 6

ANT 6276 Principles of Political Anthropology.
Credits: 3

ANT 6286 Seminar in Contemporary Theory.
Credits: 3; maximum 10.

ANT 6356 Peoples and Culture in Southern Africa.
Credits: 3

ANT 6387 Seminar on the Anthropology of Latin America.
Credits: 3; maximum 10.

ANT 6388 Ethnographic Field Methods.
Credits: 3

ANT 6428 Culture and Community.
Credits: 3

ANT 6429 Ethnicity.
Credits: 3

ANT 6434 Transcultural Psychiatry.
Credits: 3

ANT 6445 Seminar in African Studies.
Credits: 3

ANT 6447 Seminar in Urban Anthropology.
Credits: 3

ANT 6478 Small Groups in Cross-Cultural Perspective.
Credits: 3

ANT 6487 Evolution of Culture.
Credits: 3

ANT 6547 Human Adaptation.
Credits: 3

ANT 6588 Seminar in Physical Anthropology.
Credits: 3; maximum 10.

ANT 6619 Seminar in Language and Culture.
Credits: 3; maximum 10.

††Grading is on S-U basis only.

ANT 6627 Seminar in Anthropological Linguistic Field Methods.
Credits: 3; maximum 10.

ANT 6707 Seminar on Applied Anthropology.
Credits: 3

ANT 6708 Anthropology and Public Policy.
Credits: 3

ANT 6716 Problems of National Integration in Latin America.
Credits: 3

ANT 6719 Anthropology and Evaluation Research.
Credits: 3

ANT 6725 Culture and Learning.
Credits: 3

ANT 6735 Seminar in Cross-Cultural Epidemiology.
Credits: 3

ANT 6737 Medical Anthropology.
Credits: 3

ANT 6905 Individual Work.
Credits: 1 to 3. Maximum 10 credits.

ANT 6910 Supervised Research.
Credits: 1 to 5††

ANT 6915 Research Projects in Social, Cultural and Applied Anthropology.
Credits: 1 to 3; maximum 10.

ANT 6917 The Profession of Anthropology.
Credits: 2

ANT 6933 Special Topics in Anthropology.
Credits: 3. Maximum 10 credits.

ANT 6940 Supervised Teaching.
Credits: 1 to 5††

ANT 6945 Internship in Applied Anthropology.
Credits: 1 to 8. Maximum 8 credits.

ANT 6971 Master's Research.
Credits: 1 to 15††

ANT 7980 Doctoral Research.
Credits: 1 to 15††

ARCHITECTURE
COLLEGE OF ARCHITECTURE
INSTRUCTIONAL STAFF 1981-82

Butt, A.F., Chairman; Ashworth, G.; Cappellari, F.; Connell, R.; Crain, E.E.; Dasta, A.J.; Foster, M.T.; Gundersen, M.; Haase, R.W.; Hamacher, B.H.; Jaroszewicz, M.T.; Kemp, H.W.; Kinzey, B.Y.; Lisle, F.F.; McRae, J.M.; Merritt, H.C., Jr.; Morgan, C.F.; Morse, R.H.; Prugh, P.E.; Reeves, F.B.; Ridgdill, G.D.; Scheffer, G.; Shaw, L.G.; Siebein, G.; Solis, M.M.; Thorne, K.S.; Tillman, W.L.; Tilson, W.L.; Voichysonk, B.F.; Wagner, W.G.; White, T.R.; Winarsky, I.H.; Wisley, P.P.

ARC 1126 Architectural Communications 1. F, SS.
Credits: 3
An introduction to the tools and techniques used in producing drafted architectural drawings and architectural models.

ARC 1131C Architectural Communications 2. S, SS.
Credits: 3; Prereq: ARC 1126.
Visual thinking for design. Introduction to design elements, including color and principles of organization. Freehand drawing, diagramming, perspective and models utilized as design process tools. Investigation of presentation techniques.

ARC 1211 Building Arts. F, S, SS.
Credits: 2
A survey of the building arts, with emphasis on the social and physical factors that influence them.

ARC 1701 Survey of Architectural History 1. S, SS.
Credits: 3; Coreq: ARC 1701L (College of Architecture majors only).
A general survey of social, political, and cultural factors which have generated art and architecture from prehistoric times through the eighteenth century.

ARC 1701L Survey of Architectural History 1—Lab. S, SS.
Credits: 1; Coreq: ARC 1701.
A laboratory for College of Architecture students in design-oriented programs who are enrolled in ARC 1701.

ARC 2201 The Theory of Architecture. F.
Credits: 2; Prereq: ARC 1211, ARC 1701; Coreq: ARC 2311.
A critical study of the processes which influence the form and image of architecture. There is an emphasis on an understanding of ordering principles and concepts about how space and architectural systems are interrelated.

ARC 2311C Architectural Design 1. F.
Credits: 4; Prereq: ARC 1131C.
A foundation course, emphasizing architectural design vocabulary, spatial organization and architectural systems.

ARC 2313C Architectural Design 2. S.
Credits: 4; Prereq: ARC 2311.
The integration, in architectural design, of spatial, structural, and architectural systems within their physical context.

ARC 2461 Materials and Methods of Construction 1. F.
Credits: 3
The nature of materials used in construction. Criteria for evaluation and selection related to design decision-making.

ARC 2580 Architectural Structures 1. S.
Credits: 4; Prereq: PHY 2004, ARC 2461.
An introductory course in the evaluation of structural behavior as it relates to building systems.

ARC 2681 Environmental Technology 1. S.
Credits: 2; Prereq: PHY 2004.
An introduction to technological aspects of building design which relate to human comfort, safety and efficiency.

ARC 3291C Special Studies in Architecture. F, W, S, SS.
Credits: 1 to 3; Prereq: completion of lower division in Architecture and recommendation of adviser.
Special studies in Architecture adjusted to individual needs of undergraduate students. Student may repeat for a maximum of 6 credits.

ARC 3381C Architectural Design 3. F.
Credits: 5; Prereq: ARC 2313.
Individual design processes are developed through a more acute understanding of method, using the tools of architecture to achieve a more complete building statement.

ARC 3382C Architectural Design 4. S.
Credits: 5; Prereq: ARC 3381.
Architectural design, as a product of environmental influences, is investigated through a range of projects which vary in scale, complexity, and social settings.

ARC 3463 Materials & Methods of Construction 2. F.
Credits: 3; Prereq: ARC 2461.
Methods of assembling materials, into building components and subcomponents; detailing construction systems for shelter and enclosure.

ARC 3551 Architectural Structures 2. S.
Credits: 4; Prereq: ARC 2580, MAC 3223.
Analysis and design of wood and steel structural systems; introduction to continuity in architectural structures.

ARC 3682 Environmental Technology 2. S.
Credits: 4; Prereq: ARC 2681.
Principles and practices relating to the control of the thermal and atmospheric environment in buildings; plumbing, fire safety and building transportation systems.

ARC 3783 Survey of Architectural History 2. F.
Credits: 3; Prereq: ARC 1701.
A general survey of social, political, and cultural factors which have generated art and architecture of the 19th and 20th centuries.

ARC 3801 Survey of Architectural Preservation. S.
Credits: 2; Prereq: Upper Division standing.
A multi-disciplinary overview of the precedents, programs, processes, and products of preservation.

ARC 4274 Professional Administration. S.
Credits: 4; Prereq: Fourth year standing.
An introduction to contract documents and their relationship to the ethical, legal and professional responsibilities of the architect.

ARC 4384 Architectural Design 5. F.
Credits: 6; Prereq: ARC 3382.
Architectural design within an urban context, at macro and micro sales. Theory, methodology and evolution of urban form in response to social, cultural, economic and technological forces. Synthesis of all relevant systems in urban form.

ARC 4385 Architectural Design 6. S.
Credits: 6; Prereq: ARC 4384.
Emphasis on the notion of control over architectural design processes in order to arrive at solutions that respond to societal needs through the appropriate use of programming tools and technology.

ARC 4464C Materials and Methods of Construction 3. S.
Credits: 3; Prereq: ARC 3463.
Cost control and quality control in design and construction; estimating, life-cycle analysis, specification-writing and field observation.

ARC 4561C Architectural Structures 3. F.
Credits: 4; Prereq: ARC 3551.
Analysis and design of reinforced and prestressed concrete systems; introduction to wind and seismic effects upon building systems.

ARC 4683 Environmental Technology 3. F.
Credits: 4; Prereq: ARC 2681.
Fundamentals of architectural lighting, acoustics, electric power distribution and building communications.

ARC 4784 Architectural History 3. S.
Credits: 3; Prereq: ARC 3783.
Related social, political, and cultural factors which have generated art and architecture, with emphasis upon specific areas.

GRADUATE COURSES

ARC 5535 Architectural Structures — Advanced.
Credits: 3

ARC 5791 Problems in Architectural History.
Credits: 3

ARC 5800 Survey of Architectural Preservation, Restoration, and Reconstruction.
Credits: 3

ARC 5810 Techniques of Architectural Documentation.
Credits: 3

ARC 5890 Historic Preservation and Restoration.
Credits: 3

ARC 6241 Professional Core 1.
Credits: 9

††Grading is on S-U basis only.

ARC 6265 Terminal Project.
Credits: 1 to 10

ARC 6275 Professional Core 2.
Credits: 1

ARC 6347 Architectural Design 1.
Credits: 9

ARC 6355 Architectural Design 2.
Credits: 9

ARC 6391 Architecture, Energy, and Ecology.
Credits: 3

ARC 6393 Advanced Architectural Connections.
Credits: 3

ARC 6521 Advanced Architectural Structures 7.
Credits: 3

ARC 6541 Advanced Architectural Structures 1.
Credits: 3

ARC 6552 Advanced Architectural Structures 2.
Credits: 3

ARC 6555 Advanced Architectural Structures 3.
Credits: 4

ARC 6565 Advanced Architectural Structures 4.
Credits: 3

ARC 6566 Advanced Architectural Structures 5.
Credits: 4

ARC 6571 Advanced Architectural Structures 6.
Credits: 3

ARC 6591 Advanced Architectural Structures 8.
Credits: 3

ARC 6632 Environmental Systems Design Laboratory 2.
Credits: 3

ARC 6633 Environmental Systems Design 2.
Credits: 3

ARC 6642 Environmental Systems Design Laboratory 3.
Credits: 3

ARC 6643 Environmental Systems Design 3.
Credits: 3

ARC 6684 Environmental Systems Design 1.
Credits: 3

ARC 6685 Environmental Systems Design 4.
Credits: 3

ARC 6691 Environmental Systems Design 5.
Credits: 3

ARC 6713 Architectural History 1.
Credits: 3

ARC 6735 Architectural History 2.
Credits: 3

ARC 6742 Architectural History 3.
Credits: 3

ARC 6750 Architectural History: American.
Credits: 3

ARC 6761 Architectural History: Area Concentration.
Credits: 3 to 9

ARC 6771 Architectural History: Literature and Criticism.
Credits: 3 to 9

ARC 6793 Architectural History: Regional.
Credits: 3

ARC 6851 Technology of Preservation: Materials and Methods 1.
Credits: 3

ARC 6852 Technology of Preservation: Materials and Methods 2.
Credits: 3

ARC 6853 Technology of Preservation: Problems and Processes.
Credits: 3

ARC 6854 Technology of Preservation: Programming and Design.
Credits: 3

ARC 6860 Techniques of Preservation: Legal and Economic Processes.
Credits: 3

ARC 6910 Supervised Research.
Credits: 1 to 5††

ARC 6911 Architectural Research 1.
Credits: 1 to 6

ARC 6912 Architectural Research 2.
Credits: 1 to 6

ARC 6913 Architectural Research 3.
Credits: 1 to 6

ARC 6940 Supervised Teaching.
Credits: 1 to 5††

ARC 6971 Research for Master's Thesis.
Credits: 1 to 15††

ART
College of Fine Arts

INSTRUCTIONAL STAFF 1981-82

Westin, R.H.; Craven, R.C.; Grissom, E.E.; Heipp, R.C.; Isaacson, M.J.; Kerslake, K.A.; Kremgold, D.A.; Murray, E.D.; Naylor, J.G.; Nichelson, J.C.; O'Connor, J.A.; Poynor, R.; Scott, J.F.; Skelley, R.C.; Smith, N.S.; Streetman, E.Y.; Uelsmann; J.N.; Ward, J.L.; Ward, P.A.; Williams, H.D.; Wilson, W.W.; Yellin, J.W.

Art

ART 1201C Beginning Design 1. F, S, SS.
Credits: 3
Fundamental principles of visual organization. Emphasis upon two-dimensional design in black and white and color. Students who intend to major in art should schedule ART 1201C and 1300C concurrently.

ART 1203C Beginning Design 2. F, S, SS.
Credits: 3; Prereq: ART 1201C.
Continuation of ART 1201C. Emphasis upon design in three dimensions. Projects in construction, modeling and carving in a variety of materials.

ART 1300C Beginning Drawing 1. F, S, SS.
Credits: 3
Drawing as a means of formal organization. Exploration of the drawing media through still life, figure and landscape.

ART 1301C Beginning Drawing 2. F, S, SS.
Credits: 3; Prereq: ART 1300C.
Continuation of ART 1300C. Emphasis upon spatial description — use of the figure.

ART 2001C Studio for Non-Majors. F, S, SS.
Credits: 2; No prerequisites.
An introductory studio course for the student who does not intend to major in art. Emphasis upon creative expression rather than technical proficiency. Not available for credit toward a major in art. This course may be repeated with change in content up to a maximum of 4 credits. This course may be taken on the S-U option.

ART 3110C Ceramics 1. F, S, SS.
Credits: 4; Prereq: ART 1201C-1203C.
An introduction to ceramic arts. Basic concepts of design, handbuilding processes and an introduction to glazing and firing of ceramics.

ART 3111C Ceramics 2. F, S, SS.
Credits: 4; Prereq: ART 1203C-3110C.
Basic studies in pottery; concentration on wheel

throwing. An introduction to functional designing. A continuation of glazing and firing processes.

ART 3150C Jewelry and Metalwork, 1. F.
Credits: 4; Prereq: ART 1203C-3110C.
Basic processes in jewelry and metalwork. Work in silver, copper, and other materials. Enameling on metal.

ART 3151C Jewelry and Metalwork, 2. S.
Credits: 4; Prereq: ART 3150C.
Emphasis upon craftsmanship. Advanced techniques in metalwork and enameling.

ART 3233C Layout 1. F.
Credits: 4; Prereq: ART 1201C. Recommended, ART 3280C.
Fundamental principles of visual communication and of design in printed material.

ART 3234C Layout, 2. S.
Credits: 4; Prereq: ART 1201C.
Continuation of ART 3233C with emphasis upon concept development.

ART 3235C Graphic Design. S.
Credits: 4; Prereq: ART 3233C.
Principles of advertising design with emphasis upon development of visual ideas. Study of the nomenclature, basic principles and mechanics of typography.

ART 3280C Lettering and Typography. F.
Credits: 4; Prereq: ART 1201C.
For Graphic Design Majors only. Principles of design and use of letter forms. Study of historic designs and styles. Development of skills and execution. Practical exercises in layout and preparation of type for the printed page.

ART 3310C Intermediate Drawing, 1. F, S, SS.
Credits: 4; Prereq: ART 1301C.
Emphasis on creative expression of ideas and concepts; further development of techniques and materials/media related to the drawing processes.

ART 3311C Intermediate Drawing 2. F, S, SS.
Credits: 4; Prereq: ART 3310C.
Continuation of ART 3310C.

ART 3400C Printmaking,, 1. F, S, SS.
Credits: 4; Prereq: ART 3310C.
Basic procedure and processes in printmaking. Formal and expressive characteristics of the print media.

ART 3401C Printmaking 2. F, S, SS.
Credits: 4; Prereq: ART 3400C.
A continuation of ART 3400C.

ART 3510C Painting 1. F, S, SS.
Credits: 4; Prereq: ART 1301C.
Technical and creative problems. Emphasis upon pictorial organization. Paintings in various media.

ART 3520C Painting 2. F, S, SS.
Credits: 4; Prereq: ART 3510C.
Work in various media.

ART 3600C Photography 1. F, S, SS.
Credits: 4
Fundamentals of photography. Operation of camera. Developing, printing, enlarging. Principles of photography as a means of personal expression.

ART 3601C Photography 2. F, S, SS.
Credits: 4; Prereq: ART 3600C.
Continuation of ART 3600C.

ART 3605C Photo-Print Processes 1. F, S, SS.
Credits: 4; Prereq: ART 3600C-3400C.
Studies in the conversion of the photographic image into a form suitable for the printmaking processes. Processes will include: photo screen printing, photo-etching and photo-lithography.

††Grading is on S-U basis only.

ART 3606C Photo-Print Processes 2. F, S, SS.
Credits: 4; Prereq: ART 3605C.
Continuation of ART 3605C. May be repeated with change of content.

ART 3701C Sculpture 1. F, S, SS.
Credits: 4; Prereq: ART 1203C.
Problems in sculptural form and composition. Work in plaster, clay, metal and other materials.

ART 3702C Sculpture, 2. F, S, SS.
Credits: 4; Prereq: ART 3701C.
Continuation of ART 3701C. Emphasis upon sculpture in metal. Introduction to carving.

ART 3830C Methods and Materials of the Artist. S.
Credits: 4; Prereq: ART 1201C-1203C.
Emphasizes the physical properties of the artist's materials.

ART 4113C Advanced Ceramics. F, S, SS.
Credits: 4 or 6; Prereq: ART 3111C.
Contemporary ceramic design and execution. Advanced technical and creative problems. This course may be repeated for credit.

ART 4239C Projects in Graphic Design; 1. F.
Credits: 4 or 6; Prereq: A major in graphic design.
Projects in design and execution of page advertisement and direct-mail brochures. Poster design and package design.

ART 4241C Projects in Graphic Design, 2. S.
Credits: 4 or 6; Prereq: ART 4239C.
Design and execution of comprehensive advertising campaign.

ART 4312C Advanced Drawing. F, S, SS.
Credits: 4 or 6; Prereq: ART 3310C-3311C.
Emphasis upon individual and creative expression. This course may be repeated for credit.

ART 4402C Advanced Printmaking. F, S, SS.
Credits: 4 or 6; Prereq: ART 3401C.
Advanced problems in creative printmaking. This course may be repeated for credit.

ART 4531C Advanced Painting. F, S, SS.
Credits: 4 or 6; Prereq: ART 3520C.
Emphasis upon individual creative expression. This course may be repeated for credit.

ART 4604C Advanced Photography. F, S, SS.
Credits: 4 or 6; Prereq: ART 3601C.
Use of the camera as a medium of individual creative expression. Experimental projects in black and white and color photography. This course may be repeated for credit.

ART 4703C Advanced Sculpture. F, S, SS.
Credits: 4 or 6; Prereq: ART 3702C.
Advanced problems in sculptural form with further development of processes and techniques. This course may be repeated for credit.

ART 4905C Individual Study. F, S, SS.
Credits: 4; Prereq: A major in art and permission of the department chairman.
This course may be repeated for credit.

ART 4930L Special Topics. F, S, SS.
Credits: 4
Rotating special topics in studio art and studio practice. May be repeated with change of content.

GRADUATE COURSES

ART 5905C Individual Study. F, S, SS.
Credits: 3-4; Prereq: A major in art and permission of the department chairman.
This course may be repeated for credit.

ART 6835C Research in the Methods and Materials of the Artist. F, S, SS.
Credits: 3 to 4

ART 6910C Supervised Research. F, S, SS.
Credits: 1 to 5††

ART 6927C Advanced Study. F, S, SS.
Credits: 3 to 4

ART 6940 Supervised Teaching. F, S, SS.
Credits: 1 to 5††

ART 6971 Master's Research. F, S, SS.
Credits: 1 to 15††

ART 6973C Individual Project. F, S, SS.
Credits: 1 to 10††

Art History

ARH 2050 Introduction to the Principles and History of Art 1. F.
Credits: 4
Principles of art. Relation of styles to cultural context. Art and architecture from ancient times to the beginning of the Renaissance.

ARH 2051 Introduction to the Principles and History of Art 2. S.
Credits: 4
Continuation of ARH 2050. Art and architecture from the Renaissance to the present.

ARH 3130 Greek Art. F.
Credits: 4; Prereq: ARH 2050.
The art and architecture of ancient Crete and Greece through the Hellenistic Age.

ARH 3171 Roman and Early Christian Art. S.
Credits: 4; Prereq: ARH 2050.
The art and architecture of the Italian peninsula. Etruscan through the Roman Empire — early Christian and Byzantine art.

ARH 3200 Medieval Art. S.
Credits: 4; Prereq: ARH 2050.
The art and architecture of Europe and the Mediterranean region from approximately the fourth to the fourteenth centuries A.D.

ARH 3510 Arts of Africa and Oceania. S.
Credits: 4
An introduction to the visual arts of Africa and Oceania. The focus of the course will be on either area. The course may be repeated with a change of content.

ARH 3520 Arts of Black Africa. F, S.
Credits: 4
Survey of traditional visual arts of Black Africa offered in two separate courses: (1) Arts of Western Sudan and Guinea Coast; (2) Arts of the Equatorial Forest and Southern Savanna. This course may be repeated with change of content and may be taken for graduate credit under ARH 5905.

ARH 3530 Oriental Art. S.
Credits: 4
The visual arts in Oriental civilizations. This course may be repeated with change of content.

ARH 3541 The Art of India. 1. S.
Credits: 4
A survey of the development of sculpture and architecture in India from the Indus Valley epoch through the Medieval period.

ARH 3542 The Art of India 2. S.
Credits: 4
A survey of the development of painting in India from ancient times up to the contemporary period.

ARH 3605 American Indian Art. S.
Credits: 4
A survey of the visual arts of the Amercan Indians north of Mexico from the prehistoric era to the present.

ARH 3613 American Art. F.
Credits: 4
Architecture, painting, sculpture, and decorative arts in Anglo-America from the 17th century beginnings to the end of the 19th century.

ARH 3614 Introduction to Afro-American Art. S.
Credits: 4
This course will include Afro-American art from Latin America and the Caribbean as well as from the United States. Emphasis will be on the social context of the art and artists under consideration. May be taken for graduate credit under ARH 5905.

ARH 3650 Latin American Art. F, S.
Credits: 4
The architecture, painting, sculpture, and important minor arts within what is now Latin America will be offered in three-semester sequence: (1) Pre-Columbian Mesoamerica (Mexico and the Maya before the Spanish Conquest); (2) Pre-Columbian South America, including Lower Central America and the Antilles; (3) Colonial and Modern Latin America. This course may be repeated with change of topic.

ARH 3800 Criticism of Art. S.
Credits: 4; Prereq: ARH 2050-2051.
Review of principal theories in the history of criticism. Analysis and evaluation of works of art. Problems in the criticism of contemporary art

ARH 4310 Early Renaissance Art in Italy. F.
Credits: 4; Prereq: ARH 2050-2051.
Italian art from 1200 to 1430. Emphasis upon painting and sculpture.

ARH 4311 Later Renaissance Art in Italy. S.
Credits: 4; Prereq: ARH 2050-2051.
Continuation of ARH 4310. Italian art and architecture from 1460 to 1590. Emphasis upon painting and sculpture.

ARH 4331 Renaissance Art in Northern Europe. F.
Credits: 4; Prereq: ARH 2050-2051.
Sources and development of late 14th, 15th and 16th century art outside Italy. Emphasis upon painting and prints.

ARH 4350 Baroque Art in Europe. S.
Credits: 4; Prereq: ARH 2050-2051.
Continuation of ARH 4311-4331. European art and architecture in the 17th and 18th centuries. Emphasis upon painting and sculpture.

ARH 4431 Nineteenth Century Art. F.
Credits: 4; Prereq: ARH 2050-2051.
European art and architecture in the nineteenth century. Neo-Classicism, Romanticism, Realism, Impressionism, and Post-Impressionism. Emphasis upon painting and sculpture.

ARH 4452 Early Twentieth Century Art. S.
Credits: 4; Prereq: ARH 2050-2051.
European and American Art from Post-Impressionism to 1945. Emphasis upon painting and sculpture.

ARH 4453 Mid-Twentieth Century Art. F, S, SS.
Credits: 4
Continuation of ARH 4452. American and international art from 1945 to present.

ARH 4495 Senior Seminar. F, S, SS.
Credits: 4; Prereq: Senior standing and a major in art.
Study and discussion of selected topics of current interest and significance in the visual arts.

ARH 4905 Individual Study. F, S, SS.
Credits: 4; Prereq: A major in art and permission of the department chairman.
This course may be repeated for credit.

ARH 4930C Special Topics. F, S, SS.
Credits: 4
Rotating special topics in Art History. May be repeated with change of content.

ARH 4935 Honors Seminar in Art. F, S, SS.
Credits: 4; Prereq: ARH 4495 or equivalent, senior standing and a major in art.
Intensive study by the seminar method of a limited topic in the field of art. This course may be repeated with change in content.

GRADUATE COURSES

ARH 5805 Methods of Research and Bibliography. S.
Credits: 3; Prereq: ARH 3800 or its equivalent.
Emphasis upon research methodology.

ARH 5905 Individual Study. F, S, SS.
Credits: 3-4; Prereq: A major in art and permission of the department chairman
This course may be repeated for credit.

ARH 6791 Research in the Methods and Materials of the Artist. F, S, SS.
Credits: 3-4††

ARH 6897 Seminar: Problems in the History, Theory and Criticism of Art. F.
Credits: 5.
Ideas in contemporary art.

ARH 6910 Supervised Research. F, S, SS.
Credits: 1 to 5††

ARH 6911 Advanced Study. F, S, SS.
Credits: 3 to 4

ARH 6971 Master's Research. F, S, SS.
Credits: 1 to 15††

ASIAN STUDIES
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82
(Major Committee)

Johnson, Irmgard, Director (History); Chalmers, D.M. (History); Chang, R.T. (History); Chennault, C. (Chinese Language and Literature); Chu, C.C. (Linguistics and Chinese); Clubok, A.B. (Political Science); Craven, R.C. (Art); Creel, A.B. (Religion); Funk, A.L. (History); Lawless, R. (Anthropology); McCoy, F.T. (Law); Thursby, G.R. (Religion); Vance, T. J. (Linguistics and Japanese).

The Asian Studies interdepartmental program offers an interdisciplinary major which culminates in a Bachelor of Arts degree. Students will take 27 semester hours from designated disciplinary courses and from General Asia courses. At least one interdisciplinary seminar will be included in this program.

In addition to the major, the student should also be aware of the Basic Distribution and Language Requirements of the College of Liberal Arts and Sciences. Fulfillment of these foreign language requirements will be discussed in consultation with the faculty advisor (a member of the Major Committee listed above), taking into account the individual's educational, professional, and personal goals. The University offers courses in both Chinese and Japanese, and Hindi.

Graduate courses in several areas of Asia are listed under individual departments, and an Asian-emphasis Master's degree may be worked out in some cases.

In addition to the 27 hour major, a 14-16 hour Certificate Program is available. (See "Certificate Programs" under "Special Programs" in the College of Liberal Arts and Sciences section in this catalogue.)

Asian Studies Courses

General Asia: HUM 2410; ASN 2001; CPO 3513; HUM 3411; ARH 3530; ASN 4935; REL 4390, REL 2002

East Asia: CHI 3500; ECS 4203; ASH 2301, 2302, 3401, 3302, 3303, 3441, 3442, 5388, 6904; MUH 3501 (when concentrated on Asia); REL 3330, 4333

Also languages: JAP 1120, 1121, 1122, and all levels above; CHI 1120, 1121, 1122, and levels above.

South Asia: ARH 3541, 3542; ASH 3521, 3550; REL 3342, 3346, 4347, 4390

In addition to the foregoing lists, Individual Study and Special Topics courses dealing with Asia may also be utilized for degree credit (or certificate credit) with the approval of the faculty adviser.

Honors will be awarded to any student who completes the Asian Studies interdisciplinary major program with a 3.5 or higher grade average both in the major and in upper division work, and who is recommended for Honors by both the Director of Asian Studies and the instructor in ASN 4935 as having completed in that course an honors-caliber individual project which is interdisciplinary in nature.

Interdisciplinary Asian Studies Courses

ASN 2001 Asia and Its Peoples. S.
Credits: 3
An introductory study of Asia, with special attention to selected current problems as reflected in life situations in Asian countries.

ASN 4935 Asian Studies Senior Seminar. F, S.
Credits: 3; Prereq: Senior status in Asian Studies or permission of the instructor.
An integrated approach designed to enable a student to bring together various facets of previous study in relation to particular topics and problems. Required of all majors in the Asian Studies Interdisciplinary Program; open to other advanced students with the permission of the instructor.

Humanities

HUM 2410 Asian Humanities. F.
Credits: 4
A general education course similar in philosophy and purpose to HUM 2210, 2230, 2250. Contents selected from the philosophy, literature, art, and music of India, China, and Japan.

HUM 3411 Asian Arts and Concepts. S.
Credits: 3
Also an Asian Culture course; it studies other selections from the philosophy, literature, art, architecture, music, and theatre of India, China, and Japan at a more advanced level than HUM 2410 and with more particularized analysis of certain genres and individual works.

ASTRONOMY
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Eichhorn, H.K., Chairman; Carr, T.D.; Chen, K-Y.; Cohen, H.L.; Gottesman, S.T.; Green, A.E.S.; Hunter, J.H.; Isper, J. R.; Leacock, R.J.; Lebo, G.R.; Oliver, J.P.; Omer, G.C.; Roberts, L.H.; Smith, A.G.; Smith, H.C.; Williams, C.A.; Wilson, R.E.; Wood, F.B.

In addition to the general requirements of the College, students majoring in Astronomy must take AST 3018, AST 3019, PHY 2048, PHY 2048L, PHY 2049, PHY 2049L, MAC 3311, MAC 3312, MAC 3313, and MAP 3302. They must also select 14 hours from the following group of courses: AST 3652 or AST 3653, AST 4402, AST 4622, AST 4905 (maximum of 2 hours), AST 5043, AST 5113 or AST 5114, AST 5210, AST 5270, AST 5600. Finally, 8 hours must be elected from the following group of courses: PHY 3221, PHY 3321, PHY 3422, PHY 3521, PHY 3604, PHY 4222, PHY 4322, PHY 4444, PHY 4522, PHY 4605, PHY 4803L. All courses in the above groups must be completed with a grade of C or better.

Elective courses for students considering an advanced degree in Astronomy should include one year of general chemistry, some computer and in-

††Grading is on S-U basis only.

Descriptions

ASTRONOMY

formation science courses and additional courses in mathematics and physics. Astronomy majors are advised to see the Departmental undergraduate major adviser, Dr. Robert Leacock, 211 SSRB, as soon as possible in their academic career.

AST 1002 Discovering the Universe. F, S, SS.
Credits: 3; Prereq: none
An elementary, largely non-mathematical survey of our universe of stars, planets, and galaxies. Acquaints the student with the development of astronomy as a human activity — with how we know as well as what we know. Primarily for those not majoring in physical science or mathematics.

AST 1022L Astronomy Laboratory. F, S.
Credits: 1; Prereq: none
An elementary introduction to experimental work in astronomy, includes both scheduled laboratory exercises during the day in the teaching lab and evening observational astronomy at the on-campus teaching observatory.

AST 2001 Fringes of Science. F, S.
Credits: 2; Prereq: none
An investigation into the scientific background of UFO reports, unconventional astronomical hypotheses and similar topics on the "Fringes of Science." Working from original published materials this course looks at all sides of these controversial topics.

AST 2003C Survey of Solar System Astronomy. F.
Credits: 3
An elementary survey emphasizing astronomy of the solar system. The course is designed for those not majoring in physical science or mathematics. Includes observational work and satisfies the requirement for a laboratory science.

AST 2004C Survey of Stellar Astronomy. S.
Credits: 3
An elementary survey emphasizing stellar, galactic and extragalactic astronomy. The course is designed for those not majoring in physical science or mathematics. Includes observational work and satisfies the requirement for a laboratory science.

AST 2036 Astrology, the Non-Science. S.
Credits: 2; Prereq: none
Exposition and critical discussion of the methods, hypotheses and claims of various schools of astrology, their history and development.

AST 2037 Life in the Universe. S.
Credits: 2; Prereq: none
Considers the origin of life on Earth and the possibility of its existence elsewhere. A multidisciplinary approach is followed. Conditions for life to form, and the likelihood that such conditions may exist elsewhere in the Universe, are discussed. Also considered are schemes proposed for the search for extraterrestrial intelligence (SETI).

AST 2039 Exploration of the Universe. F, S.
Credits: 2; Prereq: none
A descriptive, non-mathematical examination of current ideas concerning the origin, evolution and future development of the universe and its major constituents. This elementary course in cosmology is designed for non-science majors.

AST 3018C General Astronomy 1. F.
Credits: 5; Prereq: Calculus and one year of college physics.
First part of the sequence AST 3018-3019. A survey of the astronomical universe, primarily for majors in physical science, engineering, or mathematics. Includes observational work and satisfies the requirement for a laboratory science.

AST 3019C General Astronomy 2. S.
Credits: 5; Prereq: AST 3018.
Second part of the sequence AST 3018-3019.

AST 3034 Frontiers in Astronomy. F, S, SS.
Credits: 2; Prereq: AST 1002 or AST 2004C.
Intended for non-science majors who have had an introductory course in astronomy, this course presents an in-depth look at selected topics of current interest. The content is flexible, according to the desires of the students and the instructor. No physics or mathematics background required.

AST 3082C Basic Astronomy for Teachers. SS.
Credits: 3; Prereq: One year of high-school algebra.
Lectures, demonstrations, and observing sessions covering selected topics in solar system and stellar astronomy.

AST 3623 Introduction to Kinematic Astronomy. F.
Credits: 3; Mathematics through matrices and vectors, proficiency with programmable pocket calculator.
A course designed to familiarize the student with various coordinate systems used in astronomy, the transformations by which they are related, and the computation of objects' positions with respect to these.

AST 3652 Celestial Navigation. S.
Credits: 3; Prereq: MAC 1132.
Determination of position at sea and guidance of marine vessels. Charts, the compass, dead reckoning, piloting, navigational instruments and nautical astronomy, with emphasis on fundamentals of celestial navigation.

AST 3653 Celestial and Air Navigation. F.
Credits: 3; Prereq: MAC 1132.
Covers the guidance fundamentals of aircraft. Aeronautical charts, visual flight planning and procedures, relative movement, radio, navigational astronomy; time and sight reduction.

AST 4402 Galaxies and Cosmology. F.
Credits: 3; Prereq: AST 3018-3019 and a working knowledge of differential and integral calculus.
An investigation into the properties of galaxies and of their distribution in space. Some cosmological implications of this distribution will be discussed. The course is designed for astronomy majors and advanced students of other mathematical sciences.

AST 4622 Kinematic Astronomy. S.
Credits: 3; Prereq: Knowledge of matrix and vector operations, elementary calculus.
Exposition and development of the analytical models for treating phenomena generated by the motions of celestial bodies. Topics covered are coordinate systems, time, earth motions and stellar motions.

AST 4905 Individual Work. F, S, SS.
Credits: 1 to 3; Prereq: AST 3018-3019 or two years of college physics, plus consent of instructor.
Assigned reading or research for qualified undergraduates. May be repeated with change of content.

GRADUATE COURSES

Astronomy — Instrument

ASI 6105C Techniques of Optical Astronomy I.
Credits: 2

ASI 6106C Techniques of Optical Astronomy II.
Credits: 2

ASI 6115 Radio Astronomy Instrumentation.
Credits: 2

ASI 6115L Radio Astronomy Laboratory.
Credits: 1

ASI 6205 Basic Principles of Radio Astronomy.
Credits: 2

ASI 6206 Radio Astrophysics.
Credits: 2

Astronomy

AST 5043 History of Astronomy.
Credits: 2

AST 5113 Solar System Astrophysics I.
Credits: 2

AST 5114 Solar System Astrophysics II.
Credits: 2

AST 5205 Stellar Spectra.
Credits: 2

AST 5210 Introduction to Astrophysics.
Credits: 3

AST 5270 Introduction to Binary Stars.
Credits: 4

AST 5273 Interacting Binary Stars.
Credits: 2

AST 5600C Kinematic Astronomy.
Credits: 4

AST 6165 Radiopropagation and Ionospheric Physics I.
Credits: 2

AST 6166 Radiopropagation and Ionospheric Physics II.
Credits: 2

AST 6168 Physics of the Earth's Upper Atmosphere.
Credits: 2

AST 6169 Physics of the Planetary Atmospheres.
Credits: 2

AST 6214 Stellar Astrophysics I: Atmosphere.
Credits: 3

AST 6215 Stellar Astrophysics II: Interior.
Credits: 3

AST 6216 Stellar Astrophysics III: Evolution.
Credits: 2

AST 6265 Variable Stars.
Credits: 2

AST 6274 Analysis of Binary Star Observations.
Credits: 4

AST 6309 Galactic and Extragalactic Astronomy.
Credits: 4

AST 6316 Stellar Dynamics.
Credits: 3

AST 6336 Interstellar Matter.
Credits: 3

AST 6416 Cosmology.
Credits: 3

AST 6506 Celestial Mechanics I.
Credits: 2

AST 6507 Celestial Mechanics II.
Credits: 2

AST 6607 Positional Astronomy.
Credits: 4

AST 6905 Individual Work.
Credits: 1 to 3; max: 6

AST 6910 Supervised Research.
Credits: 1 to 5††

AST 6935 Seminar in Modern Astronomy.
Credits: 1; max: 6

AST 6940 Supervised Teaching.
Credits: 1 to 5††

AST 6971 Research for Master's Thesis.
Credits: 1 to 15††

AST 7157 The Giant Planets.
Credits: 2

††Grading is on S-U basis only.

AST 7279 Close Binary Stars.
Credits: 2

AST 7939 Special Topics.
Credits: 2

AST 7980 Research for Doctoral Dissertation.
Credits: 1 to 15††

PHS 6606 Special and General Relativity.
Credits: 4

ATMOSPHERIC SCIENCES
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Taylor, K.E., Coordinator; Green, A.E.S.; Peterson, L.R.

The Atmospheric Sciences discipline, a component of the Department of Physics, offers a variety of programs for students interested in studying the application of scientific principles to a highly relevant area of environmental concern. In addition to the major in atmospheric science, which is a part of the interdisciplinary majors program of the College of Liberal Arts and Sciences (see College Section), minors for technical and non-technical students are also offered, as well as a minor in Weather Forecasting for Broadcasters, which is a joint program with the College of Journalism. Interested students should contact Dr. K.E. Taylor at 392-0512, room 309 SSRB.

Meteorology

MET 1010 Introduction to Weather and Climate. F, S, SS.
Credits: 3; Prereq: None.
A course designed for non-science students interested in understanding the phenomena of daily weather on the stage set by the climate.

MET 1010L Laboratory for Meteorology 1010. F, S, SS.
Credits: 1; Coreq: MET 1010.

MET 2503L Laboratory for Meteorology and Atmospheric Physics 2701. F.
Credits: 1; Coreq: MET 2701.

MET 2701 Elementary Meteorology and Atmospheric Physics. F.
Credits: 3
The phenomena of weather and climate, of the upper atmosphere and man's involvements with the lower atmosphere; for students with a physics or chemistry background.

MET 3051 Atmospheric Chemistry and Geochemical Cycles. S.
Credits: 3; Prereq: MET 1010 or equivalent.
Study of the chemical transformations of the atmosphere and their coupling to biospheric processes, including the impact of man's activities; includes geochemical cycles and the photochemistry of the lower atmosphere, including the problem of ozone depletion.

MET 3100 Dynamic Meteorology. F.
Credits: 3; Prereq: MET 1010 or equivalent.
Collection and use of climatic data; simple and complex climatic elements; climate history, trends, and fluctuations; climate activities and environment.

MET 3160L Laboratory for Meteorology and Micrometeorology. F.
Credits: 1; Prereq: PHY 2048, Coreq: MET 3711.

MET 3711 Introduction to Meteorology and Micrometeorology. F.
Credits: 3; Prereq: PHY 2048.
The interaction of the earth and atmosphere within the first hundred feet of the ground. The local radiation balance, and temporal and spatial distribution of solar radiation at the surface. The effects of small-scale circulation patterns on plant growth. Effects of local turbulence and convection.

MET 4401 Passive Remote Sensing. F.
Credits: 3; Prereq: MAP 3302.
Recent developments in remote sensing by passive optical techniques (infrared to ultraviolet) are discussed both from the point of view of instrumentation and of the properties or phenomena which are measured. Introduction to remote sensing for persons concerned with the atmosphere and with earth resources (e.g., forestry, geology, urban studies, etc.)

MET 4402 Remote Sensing of the Atmosphere (Active). S.
Credits: 3; Prereq: PHY 3123.
Recent developments in remote sensing of the atmosphere by active radio, optics, and acoustic techniques. Emphasis on micro-meteorological problems rather than the usual areas of meteorological concern.

MET 4460 Introduction to Aeronomy. S.
Credits: 3; Prereq: MET 1010 or equivalent.
Evolution, general properties and models of the atmosphere with special emphasis on solar-terrestrial relationships, the upper atmosphere, and near space. Some knowledge of the basic principles of meteorology is assumed.

MET 4905 Individual Work. F, S, SS.
Credits: 2 to 5.
Qualified undergraduate students may study selected topics in aeronomy and atmospheric sciences. May be repeated with change of content up to 15 credits.

BEHAVIORAL STUDIES
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Doherty, H., Chairperson; Christian, M.B.; Davis, B.H.; Rooks, D.G.; Wolfson, M.

The Department of Behavioral Studies offers interdisciplinary courses designed to introduce students to principles from the behavioral sciences and to help them develop skills in applying this knowledge to understand topics of contemporary significance.

BES 2121 Creative and Critical Thinking. F, S, SS.
Credits: 3
A systematic approach to problem solving that focuses on an understanding of the individual as a socio-biological creature with both psychological and physiological needs. It emphasizes creative thinking in the evaluation of evidence, the assessment of probability, and the likelihood of risk. Attention is given to sound procedures of inquiry and the effect of such subjective factors as bias, emotions, attitudes and values on these procedures. Attention is also given to the influence that language, informal fallacies, and devices of persuasion exert on the decision-making process.

BES 2930 Behavioral Studies: Special Topics.
Credits: 1 to 3
Courses designed to develop an understanding of how principles from the behavioral sciences can be used to describe, evaluate and explain selected topics of significance in contemporary society. Students will be introduced to principles from Sociology, Psychology, Anthropology, Speech, etc.

BIOCHEMISTRY AND MOLECULAR BIOLOGY
College of Medicine

INSTRUCTIONAL STAFF 1981-82

O'Brien, T.W., Acting Chairman; Allen, Jr., C.M.; Angelides, K. J.; Boyce, R.P.; Brown, Jr., R.D.; Chau, V.; Chun, P.W.; Cohen, R.J.; Dunn, B.M.; Feldherr, C.M.; Fisher, W.R.; Fried, M.; Kappy, M.S.; Kilberg, M.S.; Koroly, M.J.; Laipis, P.J.; Mans, R.J.; McGuire, P.M.; Noonan, K.D.; Remsen, J.F.; Roberts, R.M.; Silverman, D.N.; Stein, G.S.; Stein, J.; Stevens, A.R.; Young, M.

Undergraduate Coordinator: R.J. Mans

The department offers a full program of courses for the undergraduate student preparing for professional school and advanced degrees in the biological, agricultural and life sciences.

BCH 4313 and 4203 are designed to provide the student with the comprehensive information needed to undertake advanced studies in more specialized areas. BCH 4905 complements these lecture courses by providing the option of a laboratory experience for those students who are interested in experimental approaches to biochemistry.

Students with an interest in biochemistry and a strong background in chemistry and biology courses may elect to undertake an Interdisciplinary Major in Biochemistry and Chemistry, Botany, Zoology or Microbiology and Cell Science. Interdisciplinary majors are required to enroll in BCH 4905 for at least 2 semesters.

The seminar, PCB 4930 is part of the Junior Honors Medical Program which permits early entry into medical school.

For those planning graduate work in the Department, the undergraduate major should preferably be in chemistry or biological sciences. It is recommended that as many as possible of the following courses be taken: BCH 4313, BCH 4203, BCH 4905, quantitative, organic and physical chemistry, calculus, physics, genetics, physiology, and microbiology.

BCH 4203 Introduction to Intermediary Metabolism.
Credits: 3; Prereq: BCH 4313.
The second half of BCH 4313-4203. An introduction to intermediary metabolism. Topics will include a survey of biosynthetic and degradative pathways of carbohydrate, lipids, amino acids, in addition to photosynthesis, energy conservation and metabolic control.

BCH 4313 Introduction to Physical Biochemistry and Molecular Biology.
Credits: 3; Prereq: Organic Chemistry.
The first half of BCH 4313-4203. An introduction to physical biochemistry. Topics will include a survey of structure, chemistry, and function of nucleic-acids, amino acids, and proteins, enzyme kinetics, and regulation.

BCH 4905 Biochemistry Senior Research.
Credits: 3 to 5; Prereq: CHM 3210-3211 or equivalent and independent interdisciplinary majors.
Laboratory or literature investigations of biochemical problems of current interest. May be repeated with change of content up to a maximum of 15 credits. Senior thesis required.

GRADUATE COURSES

Biochemistry

BCH 6065 Advanced Physical Biochemistry.
Credits: 4

BCH 6156C Research Methods in Biochemistry.
Credits: 1 to 4; max: 8

BCH 6206 Advanced Metabolism.
Credits: 3

BCH 6296 Advanced Topics in Metabolic Control.
Credits: 2

BCH 6415 Advanced Molecular and Cell Biology.
Credits: 5

BCH 6746 Advanced Topics in Physical Biochemistry.
Credits: 2

BCH 6876 Recent Advances in Biochemistry.
Credits: 1††

††Grading is on S-U basis only.

BIOLOGICAL SCIENCES-GENERAL BIOLOGY CORE SEQUENCE

BCH 6910 Supervised Research.
Credits: 1 to 5††; max: 12

BCH 6936 Biochemistry Seminar.
Credits: 1

BCH 6940 Supervised Teaching.
Credits: 1 to 5††; max: 12

BCH 6971 Research for Master's Thesis.
Credits: 1 to 15††

BCH 7077 Advanced Topics in Molecular Biology.
Credits: 1

BCH 7257 Advanced Topics in Cell Biology.
Credits: 1

BCH 7627 Biochemistry of Disease.
Credits: 2

BCH 7980 Research for Doctoral Dissertation.
Credits: 1 to 15††

BIOLOGICAL SCIENCES — GENERAL BIOLOGY CORE SEQUENCE
College of Liberal Arts and Sciences
INSTRUCTIONAL STAFF 1981-82

Emmel, T.C., Director, Division of Biological Sciences; Nordlie, F.G., Biological Sciences Coordinator; Staff from the Departments of Biochemistry, Botany, Microbiology and Cell Science and Zoology.

The CORE Biological Science program is a two semester course sequence designed for pre-professional students intending to enter the Health Sciences, Food and Agricultural Sciences as well as the Department of Biochemistry, Botany, Microbiology and Cell Science and Zoology

Introductory Biology

BSC 2010C Integrated Principles of Biology I. F, S, SS.
Credits: 4; Prereq: CHM 2040 or equivalent. (It is suggested that students who do not have to take CHM 2040, but who have not had a strong high school chemistry course, delay their enrollment until completing their first term of chemistry.)
A study of the origin of life systems; of biological molecules, and organization of living things at the sub-cellular, cellular, and organismic levels; of the diversification of organisms; and of the activities of living forms in obtaining and utilizing energy and materials in growth, maintenance and reproduction.

BSC 2011C Integrated Principles of Biology II. F, S, SS.
Credits: 4, Prereq: BSC 2010C.
An examination in living things of the principles of information storage, transmission and utilization at the levels of the cell, organism and population; of the mechanisms of evolutionary change in the diversification of living things and their life styles; of population growth and regulation; and of energy flow and biogeochemical cycling in the biosphere.

THE BIOLOGICAL SCIENCES
College of Liberal Arts & Sciences
INSTRUCTIONAL STAFF 1981-82

Emmel, T.C., Director, Division of Biological Sciences; Frank G. Nordlie, Biological Sciences Coordinator; Staff from Departments of Botany, Zoology, and Entomology.

The program in Biological Sciences forms an intergral part of the student's total experience in general education. An appreciation of the principles governing the living world is a necessary part of the background of any educated person. The two semesters of APB 2150-2151, will satisfy the general education requirements for admission to or graduation from other colleges in the University. Students normally take the Biological Sciences courses in the above sequence but may restructure where necessary.

††Grading is on S-U basis only.

Applied Biology

APB 2150 Biological Sciences I: Cells, Organisms and Genetics. F, S, SS.
Credits: 3
The relationships between structure, function and their controlling genetic mechanisms are explored at the cellular and organismal level. Modern concepts of physiology and genetics are stressed. Emphasis is placed on the human body and the practical application of principles of heredity to man. Recommended for students not majoring in the natural sciences.

APB 2151 Biological Sciences II: Evolution, Ecology and Behavior. F, S, SS.
Credits: 3; Prereq: APB 2150 or equivalent.
The study of evolution and the development of interrelationships between organisms and their environment. The biological basis of behavior is also explored. Special emphasis is given to humans in terms of their evolution, behavior and role within the ecosystem. Recommended for students not majoring in the natural sciences.

APB 2152L Laboratory in Biological Sciences. F, S, SS.
Credits: 1; Coreq or prereq: APB 2150 or its equivalent.
A laboratory designed to acquaint the student with selected biological principles. It is available to those students who wish to gain experience in a non-professionally oriented laboratory, or for those needing laboratory experience to satisfy requirements for graduation.

APB 2991-2992 The Biological Sciences: College Honors
Credits: 3 each
Content consistent with the goals of APB 2150-2151 and structured to the abilities of qualified students.

Introductory Biology

BSC 2930 The Biological Sciences: Special Topics. F, S.
Credits: 2; Prereq: One semester of Biological Sciences or equivalent.
Topics and problems for individual and small group investigations; techniques of research, documentation, reports, critiques. Particularly relevant topics may form the nucleus for concentration during any one semester and the subject may change with change of instructor or semester.

Special Services Courses

APB 2994-2995 The Biological Sciences.
Credits: 3 each
Content consistent with the goals of APB 2150-2151 and structured to the abilities of qualified students. Admission by invitation only.

BOTANY
College of Liberal Arts and Sciences
INSTRUCTIONAL STAFF 1981-82

Stern, W.L., Chairman; Aldrich, H.C.†; Anthony, D.S.; Benedict, M.A.; Bowes, G.E.; Davis, J.S.; Deevey, E.S.†; Ewel, J.J.; Ferl, R.J.; Ford, E.S.*; Griffin, D.G.; Griffith, M.M.*; Humphreys, T.E.†; Judd, W.S.; Kimbrough, J.W.; Lucansky, T.W.; Mullins, J.T.; Popenoe, H.L.†; Putz, F.E.; Rands, D.†; Seymour, F.C.†; Shanor, L.; Smith, R.C.; Stone, M.H.†; Vasil, I.K.; Ward, D.B.
*Emeritus
†Courtesy appointment

College Adviser: T.W. Lucansky

Students planning a major in botany, either in the College of Agriculture or in the College of Liberal Arts and Sciences should consult a departmental advisor as early as possible. The major in botany shall consist of not less than 24 credits, including BSC 2010C and BSC 2011C (or acceptable equivalent), BOT 2011C, PCB 3043C, BOT 3503-3503L, BOT 3303C or BOT 5S2SC, and BOT 31S3C or BOT 5725C. The remaining hours of electives for the major will be chosen to meet the particular interests of the students for specialization in botany. Courses are to be selected from among the following: BOT 3800, BOT 4053, BOT 42B3C, BOT 4905, BOT 5625, PCB 5046C, BOT S695, BOT S505C, BOT 5435C, BOT 5405C, BOT 5SB5C, BOT 5755C, BOT 5225C, BOT 5725 and PCB 5115. Majors are also required to present credit for a course in genetics (AGR 3303 or PCB 3063), a year of general chemistry (CHM 2040, 2041 and 2042L, and 2043 or CHM 2042 and 2042L, and 2043), a course in organic chemistry (CHM 3200-3200L or CHM 3210, 3210L, 3211, 3211L), a year of college physics or equivalent (PHY 2002-2003 or PHY 2053-2054 with accompanying labs), MAC 2223 or MAC 3311. Those who are planning to pursue graduate study should include in their program two years of a foreign language. For other degree requirements and programs see Agriculture, Lower Division; Botany; Agriculture, Upper Division; B.S. in Biology, College of Liberal Arts and Sciences.

DEPARTMENTAL HONORS

To be eligible to work for departmental honors in Botany, a student must have a minimum grade point average of 3.0 overall and 3.2 in at least 15 hours of Botany. Seniors working for departmental honors in Botany will be expected to enroll in BOT 4905 for 2 semesters of the Senior year. Approval to undertake honors work must be secured from a departmental adviser prior to the first registration for BOT 490S

Biochemistry

BCH 3023 Elementary Organic and Biological Chemistry. F, SS. ('83).
Credits: 4; Prereq: CHM 2041.
Elementary organic chemistry and biochemistry for students in the agricultural technical curricula. This is a terminal course and is not part of any sequence of courses in the Chemistry Department.

Botany

BOT 1010C Introductory Botany. F, SS. ('82).
Credits: 3
Structures and functions of cells, tissues, and organs of flowering plants. Students with credit APB 2152 or equivalent of BSC 2010 may not register for credit in this course, but should take BOT 2011.

BOT 2011C Plant Diversity. F, S, SS. ('83).
Credits: 3; Prereq: BOT 1010C or BSC 2010C or APB 2152 or equivalent.
Survey of major plant groups with regard to structure, life histories, and classification.

BOT 2710 Practical Plant Taxonomy. F.
Credits: 3.
An introductory course for higher plant taxonomy, including consideration of principles of systematic botany, nomenclature, and classification, but emphasizing identification. A student completing this course should be able to identify the common ferns, fern allies, gymnosperms, and flowering plants of field and garden.

BOT 3153C Local Flora. S, SS.
Credits: 2; Prereq: BSC 2010C or equivalent.
Laboratory observation of the gross features of vascular plants and practice in the use of keys to identify plants. Elementary ecology of principal types of plant communities in northern Florida. Field trips.

BOT 3173C Weed Identification. S.
Credits: 2; Prereq: BOT 2011C or equivalent.
The identification of weeds in Florida, their distribution, and importance in different areas of the state. May be taken in conjunction with PLS 4601 Weed Science.

BOT 3303C. Introductory Vascular Plant Morphology. SS. ('82).
Credits: 3; Prereq: BOT 2011C or equivalent.
Comparative study of vascular plants with the salient morphological and anatomical features of each group being noted. Consideration is given to the origin of land plants, primitive vascular plants, and the evolution of plant organs.

BOT 3503 Introductory Plant Physiology. F.
Credits: 3; Prereq: BOT 1010C or BSC 2010-2012C or APB 2152 and APB 2152L, CHM 2043.
The chemical organization, cellular organization, metabolism, nutrition, and growth of the higher plants.

BOT 3503L Introductory Plant Physiology Laboratory. F, S, SS.
Credits: 2; Coreq: BOT 3503.
Laboratory experiments to accompany BOT 3503.

BOT 3800 Plants in Human Affairs. S. ('83)
Credits: 2.
The role of crop plants in the development of human civilization, and their effect on the course of world history, politics, economy, and cultures. Survey of important plans and plant products used by man for various purposes.

BOT 4053 Practical Experience in Teaching Botany. F, S, SS.
Credits: 2; Prereq: senior status with recommendations from two faculty members, including the course instructor.
Participation in teaching lower division botany courses with practical experience in instructional procedures, testing and grading, course and laboratory preparation, and laboratory assistance. May be repeated with change of contents up to a maximum of 4 credits.

BOT 4283C Plant Microtechnique. SS. ('83).
Credits: 2; Prereq: one year college biology.
Practice in methods of preparing, recording, and illustrating biological materials for microscopic studies.

BOT 4905 Individual Studies in Botany. F, S, SS.
Credits: 2; Prereq: at least eight hours of botany.
Qualified students and the instructor choose a particular problem for study. May be repeated with change of content up to a maximum of 4 credits.

Introductory Biology

BSC 3113 Origins of Modern Botany. S.('82).
Credits: 2. Prereq: basic knowledge of efementary botanical or biological science.
Early history of botany as a science, from ancient Greek times through the 18th century; emphasis on botany as an intellectual and cultural pursuit.

Process Biology

PCB 3043C Introduction to Ecology. F.
Credits: 3; Prereq: introductory college biology.
Basic principles of ecology as they apply to environmental problems, including major terrestrial and aquatic ecosystems of Florida.

PCB 3443 Florida's Environmental Problems.
Credits: 3; Prereq: introductory biology or consent of instructor.
Several types of major environmental problems will be examined by means of analysis of specific examples. Scientific basis of the problems and suggested solutions. Economic, social and political issues will be considered.

GRADUATE COURSES
Applied Biology

APB 5415 Radioisotope Theory and Techniques. S.
Credits: 4

Botany

BOT 5225C Plant Anatomy. S.
Credits: 3

BOT 5405C Algology. F.
Credits: 4

BOT 5435C Introductory Mycology. F.
Credits: 4

BOT 5485C Mosses and Liverworts. F. ('83).
Credits: 3

BOT 5505C Intermediate Plant Physiology. S.
Credits: 3

BOT 5625 Plant Geography. F. ('82).
Credits: 2

BOT 5685 Tropical Botany. SS. ('83).
Credits: 10

BOT 5695 Ecosystems of Florida. S.
Credits: 3

BOT 5725C Taxonomy of Seed Plants. S.
Credits: 4

BOT 5755C Biology of Ferns and their Allies. (on demand).
Credits: 3

BOT 6256C Plant Cytology. F. ('81).
Credits: 3

BOT 6316C Developmental Morphology of Flowering Plants. S. ('82).
Credits: 3

BOT 6326C Methods and Applications of Plant Cell and Tissue Cultures. S. ('82).
Credits: 3

BOT 6346C Biology and Taxonomy of Myxomycetes and Phycomycetes. S. ('83).
Credits: 3

BOT 6446 Biology and Taxonomy of Basidiomycetes. SS. ('82).
Credits: 3

BOT 6466C Biology and Taxonomy of Ascomycetes, Their Imperfect Stages, and Lichens. S. ('82).
Credits: 4.

BOT 6496C Fungal Physiology. F. ('82).
Credits: 3

BOT 6516 Plant Metabolism. S. ('82).
Credits: 3

BOT 6526 Plant Nutrition. SS. ('83).
Credits: 2

BOT 6566 Plant Growth and Development. SS. ('82).
Credits: 2

BOT 6576 Photophysiology of Plant Growth. S. ('83).
Credits: 3

BOT 6646C Ecology of Aquatic Plants. (on demand).
Credits: 3

BOT 6716C Advanced Taxonomy. (on demand).
Credits: 2

BOT 6905 Individual Studies in Botany. F, S, SS.
Credits: 1 to 3

BOT 6910 Supervised Research. F, S, SS.
Credits: 1 to 5††

BOT 6927 Advances in Botany. F, S, SS.
Credits: 1 to 3

BOT 6936 Graduate Student Seminar. F, S.
Credits: 1

BOT 6940 Supervised Teaching. F, S.
Credits: 1 to 5††

BOT 6951 Tropical Biology: An Ecological Approach. S. (on demand).
Credits: 8

BOT 6971 Research for Master's Thesis. F, S, SS.
Credits: 1 to 15††

BOT 7980 Research for Doctoral Dissertation. F, S, SS.
Credits: 1 to 15††

Process Biology

PCB 5046C Advanced Ecology. F.
Credits: 2

PCB 5115C Cytology. S.
Credits: 4

PCB 6176 Electron Microscopy of Biological Materials. S.
Credits: 2

PCB 6176L Laboratory in Electron Microscopy. S.
Credits: 2

PCB 6216C Cytochemistry. F. ('82).
Credits: 3

PCB 6356C Ecosystems of the Tropics. S.
Credits: 3

PCB 6626C Fungal Genetics. F. ('81).
Credits: 3

PCB 6691 Topics in Genetics. (on demand).
Credits: 1 to 2

ZOO 6126 Historical Ecology of the Pleistocene. F. ('81).
Credits: 3

PLP 6622C Biology, Ecology and Taxonomy of Mycorrhizae. F. ('82).
Credits: 3

BROADCASTING
College of Journalism and Communications

INSTRUCTIONAL STAFF, 1981-82

Smeyak, G.P., Chairman; Christiansen, K.A.; Conner, H.H.; Counts, F.S.; Cremedas, M.; Edwardson, M.N.; Grooms, D.A.; Hosely, D.; Jacobs, A.J.; Pactor, H.S.; Wells, E.L.

Offerings in Broadcasting are designed primarily for those planning professional careers in radio and television media and in related fields. These courses, however, may be taken for elective credit by students in all Upper Division units of the University. Students interested in major work in Radio, Television, Advertising, Journalism and Pub-

††Grading is on S-U basis only.

lic Relations are also referred to course offerings under Advertising and Journalism and to the requirements of the College of Journalism and Communications. Students who have not been admitted to the College of Journalism and Communications must have a 2.5 overall grade point average to enroll in other than the following courses: MMC 1000, MMC 2100, RTV 2000, ADV 3000, PUR 3000.

Film

FIL 3210 Film Production for Industry (8 mm).
Credits: 3
Preparation of inexpensive documentaries and training films using Super 8mm sound and silent cameras. Emphasis on uses in public relations. Student will pay for film and developing.

FIL 4200 Communicative Elements in Film Production. S.
Credits: 3
Study of films with reference to the contribution made by their components to the film-makers statement and intent. Emphasis will be placed upon the non-fiction film.

FIL 4202 Cinematography for TV. F, S, SS.
Credits: 3; Prereq: RTV 2000, RTV 3100, RTV 3200, or permission of instructor.
A basic course in handling motion picture equipment and filming assignments for television. Students are required to provide class materials, including cost of raw film stock and cost of film processing.

Radio-Television

RTV 2000 Introduction to Broadcasting. F, S, SS.
Credits: 3
An introduction to the cultural, social, legal, business and career aspects of Broadcasting.

RTV 3100 Broadcast Writing. F, S.
Credits: 3; Prereq: MMC 2100 and RTV 3200 or permisson of instructor.
Writing for radio and television: announcements, interviews, music, special events, documentaries, commentaries.

RTV 3200 Fundamentals of Broadcast Production. F, S, SS.
Credits: 3; Prereq: RTV 2000.
Basic principles and operations of radio and television equipment for utilization in industry and commercial and educational radio and television stations.

RTV 3230 Broadcast Announcing. F.
Credits: 3; Prereq: RTV 3200.
Development of basic radio and television announcing skills.

RTV 3221 Advanced Television Production. F, S, SS.
Credits: 3; Prereq: RTV 3200.
Advanced application of television production and direction, staging, lighting, graphics, video control and composition.

RTV 3300 Broadcast News Writing. F, S, SS.
Credits: 3; Prereq: MMC 2100, and ability to type 30 words per minute. Coreq: RTV 3200.
Basic instruction and practice in news gathering, writing and announcing, with special attention given to the handling of reporting assignments for the broadcast news media.

RTV 3301C Advanced Broadcast Newswriting. F, S, SS.
Credits: 3; Prereq: RTV 3300.
Advanced instruction and practice in news gathering and writing, with special attention on radio reporting assignments.

††Grading is on S-U basis only.

RTV 3403 Mass Media Processes and Effects. F, S.
Credits: 3
The flow and impact of messages from mass media; includes consideration of semantics, attitude change, behavior modification, and current theories of communication behavior.

RTV 3405 Television and the American Family. S.
Credits: 3
Enables the non-broadcasting major to use television productively and to understand its structure and effects. Research findings concerning audience behavior and criteria for evaluating television programs will be discussed.

RTV 4206 Advanced Television Directing. S.
Credits: 3; Prereq: Senior standing in the College of Journalism; RTV 3100, RTV 3221 and permission of instructor.
A study of the aesthetic and psychological factors of television production and their creative application in program production and execution.

RTV 4302 TV Reporting. F, S, SS.
Credits: 3; Prereq: RTV 3300, RTV 3301 and Senior standing in the College of Journalism and Communications.
News writing, editing and processing for the broadcast media.

RTV 4304C Broadcast News Supervision. F, S, SS.
Credits: 3; Prereq: RTV 4302 and permission of instructor.
To develop administrative skills by providing training and information about the role of news and public affairs in a station's entire operation, with emphasis on preparing students for careers in management areas of broadcast news and public affairs.

RTV 4311 Documentary for Radio, Television and Film. F.
Credits: 3; Prereq: RTV 3200, FIL 4202 and RTV 3100 or RTV 3300.
Researching, writing and producing radio, television and/or film documentaries. Students will be required to provide certain class materials for the production process.

RTV 4500 Broadcast Program Management. F, S, SS.
Credits: 3; Prereq: RTV 3100 or RTV 3200, RTV 3403, Senior standing in the College of Journalism and Communications.
Program planning and schedule building.

RTV 4800 Broadcast Operations. F.
Credits: 3; Prereq: RTV 2000.
Broadcast management problems in station operations in local radio and television stations.

RTV 4905 Individual Projects in Radio, Television and Film. F, S, SS.
Credits: 1 to 3; Prereq: At least 10 hours of Broadcasting courses in the Upper Division and approval of the Chairman and the Dean.
Projects must also have the approval of the Broadcasting faculty. The student and the instructor concerned will choose a problem or project which will give the student experience in this major field.

RTV 4930 Special Study in Broadcasting. F, S.
Credits: 1 to 3; Permisson of the instructor.
Variable content, providing opportunity for study in areas of Broadcasting such as Television Staging and Lighting. Film Criticism, Communication Theory and other fields. (May be repeated once for a total of 6 credits.)

RTV 4931 Seminar; Ethics and Problems in Broadcasting. F, S, SS.
Credits: 2. Open only to Broadcasting Seniors.
Investigation and discussion of social problems, ethics, and responsibilities in broadcasting.

RTV 4940 Broadcasting Internship. F, S, SS.
Credits: 1 to 3††; Prereq: Minimum of 10 hours of professional courses earned and a 2.5 grade point average. Must have advance approval from academic adviser, department and college offices to receive credit.
Student and instructor will select an appropriate work area related to the field of broadcasting for on-the-job training. Student will work a minimum of twelve hours on the job for every hour of credit to be received. Progress reports and summary required. May be repeated with change of content up to a maximum of 6 credits.

RTV 4949 Co-op Work Experience. F, S, SS.
Credits: 1††; Prereq: Minimum of 10 hours professional courses earned and a 2.5 GPA. Must have advance approval from academic adviser, department and colleges offices to receive credit.
Practical co-op work experience relating to broadcasting under approved business, institutional or governmental supervision. May be repeated with changed work program upon departmental approval.

Radio-Television
GRADUATE COURSES

RTV 6503 Broadcast Program and Production.
Credits: 3

RTV 6601 Radio and Television in Education.
Credits: 3

RTV 6801 Broadcast Station Management.
Credits: 3

RTV 6945C Broadcast News Workshop.
Credits: 6

RTV 6946 Broadcast Production Workshop.
Credits: 6

BUILDING CONSTRUCTION
School of Building Construction
INSTRUCTIONAL STAFF 1981-82

Brown, B.H., Director; Cox, R.E.; Crosland, R.E.; Eppes, B.G.; Grim, C.; Gunby, W.R.; Halperin, D.A., Holland, H.F.; Martin, J.W.; Martin, T.E.; Smallwood, M.H.; Spruill, V.; Strange, L.J.; Toy, A.G.; Trimmer, J.M.; Underberger, H.L.; Waldo, W.G.; Ziegler, C.D.

ARC 2580 Architectural Structures I. F, S.
Credits: 4; Prereq. PHY 2004.
An introductory course in the evaluation of structural behavior as it relates to building systems.

BCN 1210 Construction Materials. F, S.
Credits: 3
Sources, properties and uses of construction materials.

BCN 1251 Construction Drawing I. F, S.
Credits: 3
Provides basic working knowledge of architectural graphics, practice in instrumental drawing, and experience in free-hand sketching.

BCN 2400 Construction Mechanics I. SS.
Credits: 2; Prereq: PHY 2004.
An introductory course in the evaluation of structural behavior as it relates to building. Primarily for Building Constrution majors. The combination of BCN 2400 and 2401 is equivalent to ARC 2580.

BCN 2401 Construction Mechanics II. SS.
Credits: 2; Prereq: BCN 2400.
Structural behavior of load resisting members in buildings. Properties of structural materials. Primarily for Building Construction majors. The combination of BCN 2400 and 2401 is equivalent to ARC 2580.

BCN 3223 Construction Techniques I. F, S.
Credits: 5; Prereq: BCN 1251, BCN 1210.
Study and analysis of job planning, work methods, materials and equipment employed on light construction projects which include residential and small commercial buildings.

BCN 3224 Construction Techniques II. F, S.
Credits: 5; Prereq: BCN 3223.
Continuation of BCN 3223, Construction Techniques I, as applied to large commercial, institutional, industrial and roadway construction projects.

BCN 3256 Construction Drawing II. F, S.
Credits: 2, Prereq: BCN 1251.
Construction drawing, sketches, and models.

BCN 3281 Construction Methods Laboratory. F, S.
Credits: 2
Construction aspects of surveying with field and classroom exercises in the use of transit, level, chain and related equipment.

BCN 3431 Structures I. F, S.
Credits: 4; Prereq: ARC 2580, MAC 3223, PHY 2004.
To familiarize the student with the material properties, design procedures, and code requirements for steel and timber.

BCN 3461 Structures II. F, S.
Credits: 4; Prereq: BCN 3431.
To familiarize the student with the material properties, design procedures, and code requirements for formwork and concrete.

BCN 3500 Environmental Technology I. F, S.
Credits: 3; Prereq: PHY 2005.
Principles and practices of building piping systems, hydraulics and pumps, and considèration of code requirements and cost estimation.

BCN 3611 Construction Estimating I. F, S.
Credits: 4; Prereq: BCN 3223, Principles of Accounting; Coreq: BCN 3224.
Classification of work and quantity survey techniques and basic estimating applied to simple construction projects.

BCN 4012 History of Construction. F, S, SS.
Credits: 3; Prereq: Senior standing.

BCN 4227 Construction Techniques III. S.
Credits: 3; Prereq: BCN 3224.
Advanced continuation of BCN 3224, Construction Techniques II.

BCN 4464 Temporary Structures. F.
Credits: 1 to 5; Prereq: BCN 3224, 3431.
Dewatering and soils and the construction of temporary structures.

BCN 4471 Construction Productivity. F, S.
Credits: 3: Prereq: BCN 4612, 4720, Senior Standing.
A study of various time and cost control systems, including time management, preplanning and scheduling, field evaluation techniques, time-lapse photography, human factors, value engineering, safety and security.

BCN 4510 Environmental Technology III. F, S, SS.
Credits: 3; Prereq: 3500, 4521, Senior standing.
Principles and practices of comfort conditioning systems for buildings, heating and refrigeration equipment, building code considerations, plan reading and cost estimation.

BCN 4521 Environmental Technology II. F, S.
Credits: 3; Prereq: PHY 2005, Senior standing.
Principles and practices of electrical systems for buildings including code provisions and cost estimation.

BCN 4612 Construction Estimating II. F, S.
Credits: 4; Prereq: BCN 3611, Senior standing.
Analysis and determination of cost of construction operations including applicable indirect and overhead costs and the preparation of bid proposals for commercial construction projects. A cost control system is introduced and implemented with sample field generated problems.

BCN 4620 Cost Estimate Analysis. S.
Credits: 3; Prereq: BCN 4612.
Comparative analysis of actual and estimated costs as used for project control.

BCN 4700 Construction Management I. F, S.
Credits: 4; Prereq: BUL 4112, Senior standing.
Study of the organization and functioning of the construction industry, construction contracts, and construction funding

BCN 4713 Construction Labor. F.
Credits: 3; Prereq: Senior standing, BCN 4700.
A history of the construction labor movement and other factors leading to the construction labor market as it exists today, as well as an analysis of these problems from the viewpoint of construction unions, non-union construction labor, legal and construction management.

BCN 4720 Construction Planning and Control. F, S.
Credits: 3; Prereq: COP 3210, BCN 3224, 3611.
Computer application of cost and manpower estimates as construction scheduling and management techniques.

BCN 4750 Construction Management II. F, S, SS.
Credits: 4; Prereq: BCN 4700.
Management principles, methods and problems relating to personnel, including labor relations.

BCN 4751 Construction Entrepreneurship. F, S, SS.
Credits: 3; Prereq: BCN 3256, 3281, 4612, 4700, 4720.
Principles and practices of residential, commercial, and industrial land development.

BCN 4901L Construction Seminar I. F.
Credits: 1; Prereq: Senior standing.††
A series of seminars presented by professionals on construction related activities to broaden the student understanding of the entire scope of construction. May be repeated for a maximum of 2 credits.

BCN 4902L Construction Seminar II. S
Credits: 1; Prereq: Senior Standing.††
A continuation of Construction Seminar I. May be repeated for a maximum of 2 credits.

BCN 4905 Special Studies in Construction. F, S, SS.
Credits: 1 to 4; Max. 8.
Special areas of study in construction adjusted to the needs of individual students. Enrollment upon recommendation of Director only. May be repeated with change of content up to a maximum of 8 credits.

GRADUATE COURSES

BCN 5226 Advanced Construction Techniques. F.
Credits: 3; Prereq: BCN 3224.

BCN 5463 Advanced Construction Structures. F, S.
Credits: 4; Prereq: BCN 3224, 3431.

BCN 5463L Construction Structures Laboratory. S.
Credits: 1; Coreq: BCN 5463.

BCN 5470 Construction Methods Improvement. SS.
Credits: 3; Prereq: Graduate Standing.

BCN 5528 Survey of Construction Techniques. S.
Credits: 4

BCN 5625 Construction Cost Analysis. F.
Credits: 3; Prereq: BCN 4612.

BCN 5715 Advanced Construction Labor Problems. F.
Credits: 3; Prereq: Graduate Status.

BCN 5722 Advanced Construction Planning and Control. F.
Credits: 3; Prereq: COP 3210, BCN 4612.

BCN 5905 Special Studies in Construction. F, S, SS.
Credits: 1 to 5; Maximum: 13; Prereq: Graduate Status or Special Permission.

BCN 6228 Hi-Rise Construction. S.
Credits: 3

BCN 6621 Bidding Strategy. SS.
Credits: 3

BCN 6641 Construction Management and Value Engineering. SS.
Credits: 3

BCN 6910 Supervised Research. F, S.
Credits: 1 to 5††

BCN 6931 Construction Management F, S, SS.
Credits: 1 to 5; Maximum: 13.

BCN 6932 Building Construction Management. F, S, SS.
Credits: 1 to 5; Maximum: 12

BCN 6933 Building Research. F, S, SS.
Credits: 1 to 5; Maximum: 12

BCN 6934 Construction Research. F, S, SS.
Credits: 1 to 6; Maximum 12

BCN 6940 Supervised Teaching. F, S.
Credits: 1 to 5††

BCN 6971 Master's Research. F, S, SS.
Credits: 1 to 15††

BUSINESS ADMINISTRATION — GENERAL
College of Business Administration
INSTRUCTIONAL STAFF 1981-82
Maurer, V.; Ray, J.B.

Business Law

BUL 4100 Business Law. F, S, SS.
Credits: 3
Introduction to the legal system as an aspect of the business environment. Litigations; Legal Reasoning; the functions of a Legal System, Examples taken primarily from the Law of Contracts and Agency.

BUL 4112 Business Law. F, S, SS.
Credits: 4
A study of the fundamental principles governing the law of contracts, Commercial Paper, Documents of Title, Sales, Secured Transactions and related subject areas. Primary emphasis is given to the Uniform Commercial Code.

BUL 4305 Business Law. F, S, SS.
Credits: 4; Prereq: BUL 4100, 4112.
Real and Personal Property, Mortgages and Liens, Landlord and Tenant, Wills, Trusts, Decedents' Estates, Bankruptcy, Agency Partnerships, Corporations.

General Business

GEB 4941 Internship in Business Administration. F, S, SS.
Credits: 1 to 3; Taken on S-U basis only. Prereq: Consent of the Department Chairman.
Applied work in business administration. Requires several papers and reports. May be repeated with change of content up to a maximum of 6 credits.

GEB 4949 Co-op Work Experience. F, S, SS.
Credits: 1; Taken on S-U basis only. Prereq: Consent of the Cooperative Education Coordinator and the Department Chairman.
Applied work in business administration.††

Quantitative Methods in Business

QMB 3700 Quantitative Methods for Business and Economic Analysis.
Credits: 3; Prereq: MAC 3223-3224 STA 3023, ECO 3411.
Quantitative techniques and analysis for business

††Grading is on S-U basis only.

CAREER DEVELOPMENT PROGRAM

and economic decision making under conditions of uncertainty, risks, and assumed certainty. Topics include some aspects of calculus, matrix algebra, probability theory, linear programming and game theory.

GRADUATE COURSES

For admission to courses listed below, the student must have been admitted to the Graduate School and normally should have undergraduate courses in fields pertinent to the graduate courses selected; or where necessary, special arrangements may be made with the approval of the dean.

Computer Applications

CAP 5009 Computer Concepts in Business.
Credits: 2

CAP 5021 Computer Based Business Management. F, W, S, SS.
Credits: 3

Finance

FIN 6937 Advanced Finance Topics.
Credits: 3

General Business

GEB 5756 Introduction to Managerial Statistics.
Credits: 4

GEB 5805 Mathematical Methods and Their Application to Business and Economic Analysis.
Credits: 4

GEB 6705 Managerial Accounting.
Credits: 3

GEB 6757 Managerial Quantitative Analysis.
Credits: 4

Management

MAN 5505 Operations Management.
Credits: 3

MAN 6156 Human Behavior in Organizations.
Credits: 3

MAN 6721 Business Policy
Credits: 4

Marketing

MAR 6716 Problems and Methods of Marketing Management.
Credits: 3

Statistics

STA 6358 Statistical Analysis for Managerial Decisions.
Credits: 3

CAREER DEVELOPMENT PROGRAM
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Lewis, R. H., Associate Director, Career Resource Center

General Information

The program offers students an opportunity to gain a working knowledge of the social psychological factors involved in vocational development and life planning, vocational choice theory, the role of college, career exploration and work in America. The course is interdisciplinary, focusing on a systematic process of value clarification, decision making and goal setting. Students learn how to design career and life patterns structured to meet personal, educational and professional goals. Career opportunities are viewed in terms of work and life satisfaction, academic preferences and socioeconomic trends. The course is offered for elective credit. No prerequisites are required.

STD 4151 Career Development. F, S.
Credits: 3; Not available for credit for students classified LS.
Using theories of vocational choice and personality development, a survey of academic interests, research on economic and social trends relating to career options and information on the influence of changing technology on the work environment, students learn how to build a career profile model stressing interests, skills values and life style preferences. Considered in the decision making process are such factors as abilities, self-concept, changing personal needs, heredity and experience, personality type, the contribution of college to career and quality of life, social and personal definitions of work and the work ethic.

CHEMICAL ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1981-82

O'Connell, J.P., Acting Chairman; Anderson T.J.; Block, S.S.; Fahien, R.W.; Gordon, R.J.; Hoflund, G.B.; Johns, L.E., Jr.; Kirmse, D.W.; Lee, H.H.; May, F.P.; Narayanan, R.; Rao, M.S.; Shah, D.O.; Tyner, M.; Walker, R.D.; Westermann-Clark, G.

Chemistry

GRADUATE COURSES

CHM 5272 The Organic Chemistry of Polymers. F.
Credits: 3

CHM 5511 Physics & Physical Chemistry of Polymers. S.
Credits: 3

Computer Applications

CAP 3210 Computer Model Formulation. F, S.
Credits: 4; Prereq: MAC 3314, COP 3210; Coreq: MAP 3302 or EGM 3311.
Solutions of scientific and engineering problems using digital computers. Formulation of models for describing physical processes, numerical analysis, computer programming.

Engineering:

ECH 1001 Freshman Seminar in Chemical Engineering. F, S.
Credits: 1
Small group discussion with a faculty member interested in a field of chemical engineering endeavor. May be repeated with change of content for a maximum of 4 credits.

ECH 3012 Elements of Chemical Engineering 1. F, S, SS.
Credits: 3; Coreq: CHM 2043, PHY 2049, MAP 3302 or EGM 3311.
Process synthesis in chemical engineering with emphasis on mass balancing.

ECH 3023 Introduction to Chemical Engineering. F, S.
Credits: 3; Prereq: ECH 3012; Coreq: CHM 4411.
The conservation laws of mass and energy applied to the soluton of industrial chemical process problems.

ECH 3101 Chemical Engineering Thermodynamics 1. F.
Credits: 2; Prereq: ECH 3023; Coreq: CHM 4411
The principles of classical and statistical thermodynamics, and their appplication to systems of constant composition.

ECH 3109 Seminar in Chemical Engineering Thermodynamics. S.
Credits: 1; Coreq: CHM 4411.
Discussion of chemical engineering applications of the first and second laws in systems of constant composition.

ECH 3203 Chemical Engineering Operations 1. F.
Credits: 3; Coreq: ECH 3023.
Fluid mechanics of chemical engineering systems. Non-Newtonian flow. Mixer design. Fluidization. Filtration. Introduction to heat transfer.

ECH 3303 Process Systems Analysis. F.
Credits: 1; Prereq: MAP 3302 or EGM 3311; Coreq: ECH 3023.
Analysis of transients in process systems. Analog computation in chemical engineering.

ECH 3303L Chemical Engineering Laboratory 2. F.
Credits: 1; Coreq: ECH 3303.
Laboratory work associated with ECH 3303.

ECH 3783 Technology and Survival. F.
Credits: 2
Technological problems relating to the quality of life and survival in the world of today and tomorrow. Considered are the limits of mineral and energy resources, population, food, pollution and environmental deterioration.

ECH 3803 Chemistry in Engineering. S.
Credits: 3; Prereq: CHM 2042.
Application of the principles of chemistry in the solution of common engineering problems. Primarily for non-chemical engineering students.

ECH 3804L Chemical Engineering Laboratory 3. F.
Credits: 1; Prereq: CHM 2042L.
Laboratory work and demonstrations of instrumentation for process measurement and control.

ECH 4123 Chemical Engineering Thermodynamics 2. S.
Credits: 4; Prereq: ECH 3023, CAP 3210.
The application of thermodynamic principles to systems of variable composition, including the study of phase and chemical equilibria.

ECH 4144 Molecular Phenomena in Chemical Engineering. F.
Credits: 3; Prereq: ECH 4123.
Basic statistical mechanical relations for equilibrium and nonequilibrium properties of real systems, intermolecular forces, properties at surfaces and interfaces.

ECH 4145 Applied Molecular Theory. S.
Credits: 2; Prereq: ECH 4123.
The application of statistical thermodynamics and kinetic theory in the description of the behavior of pure fluids and fluid mixtures.

ECH 4221L Chemical Engineering Laboratory 9. S.
Credits: 1, lab.; Prereq: ECH 4224.
Individual laboratory work not necessarily associated with a particular course.

ECH 4224L Chemical Engineering Operations Laboratory. 1. F, S, SS.
Credits: 3; Prereq: ECH 3203.
Laboratory work in unit operations involving heat and momentum transfer. Study of instrumental analysis.

ECH 4264 Elementary Transport Phenomena. F, SS.
Credits: 3; Prereq: Senior standing or permission of instructor.
Flux laws and conservation equations for heat, mass and momentum transport in rectangular, cylindrical and spherical geometries; applications to laminar and turbulent flow systems.

ECH 4264L Chemical Engineering Laboratory 4. F.
Credits: 1; Coreq: ECH 4264.
Laboratory work associated with ECH 4264.

ECH 4281 Multidirectional Transport Phenomena. S.
Credits: 1 to 3; Prereq: ECH 4264.
Equations of change for energy, mass, and momentum transport in vector form applied to multidirectional problems.

ECH 4323 Process Control Theory. S.
Credits: 4; Prereq: CAP 3210, or consent of instructor.
The analysis and automatic control of simple process systems in chemical engineering.

ECH 4323L Chemical Engineering Laboratory 5. F.
Credits: 1; Coreq: ECH 4323.
Laboratory work associated with ECH 4323.

ECH 4403 Chemical Engineering Operations 2. S, SS.
Credits: 3; Prereq: ECH 3203.
Theory, design, and evaluation of diffusional mass transfer processes including distillation, absorption and extraction, evaporation, and humidification.

ECH 4404L Chemical Engineering Operations Laboratory 2. F, S, SS.
Credits: 2; Prereq: ECH 4224, 4403.
Laboratory work in unit operations involving mass transfer.

ECH 4504 Chemical Kinetics and Processing. S, SS.
Credits: 3; Prereq: ECH 3203.
Concepts of elementary, complex and catalytic kinetics as applied to the engineering design of batch, backmix, tubular and fluidized bed reactors.

ECH 4504L Chemical Engineering Laboratory 7. S.
Credits: 1; Coreq: ECH 4504
Laboratory work associated with ECH 4504.

ECH 4524 Reactor Dynamics and Design. F.
Credits: 2; Prereq: ECH 4504.
Analysis of chemical reactor transient behavior and stability. Pilot plant models and scale up methods. Introduction to optimal design and its application.

ECH 4604 Synthesis and Specification of Process Designs. F.
Credits: 3; Prereq: ECH 4403, ECH 4504.
An introductory chemical process design course. Basic considerations in the synthesis and selection of processes, developing flow sheets, and preparing equipment specifications. Case study design problems in preparation for ECH 4644. Also, engineering economy principles in the chemiccal field.

ECH 4605 Process Economics. F.
Credits: 2; Coreq: ECH 4604.
Engineering economy principles in the chemical field. Chemical industry economics and finance. Investment requirements, cost estimates, and profitability of chemical processes. Feasibility studies.

ECH 4624 Process Optimization. S.
Credits: 2; Prereq: ECH 4604.
A review of mathematical techniques for handling multistage decision problems encountered in process design and control. Introduction to dynamic programming.

ECH 4644 Process Design. S.
Credits: 3; Prereq: ECH 4604, ECH 4123, ECH 4824.
Preliminary design of convention chemical processes, including process specifications, siting and layout, equipment sizing, utility and manpower needs, environmental considerations and economic evaluation. Planning techniques for detailed engineering, construction, and startup.

ECH 4664 Advanced Process Design. F.
Credits: 2; Prereq: ECH 4403.
Computer aided design using programming systems for planing schedules steady-state and dynamic chemical plant simulation. Programming and data structures. Process module development project.

ECH 4704 Organic Chemical Processing.
Credits: 2; Prereq: CHM 3211.
The fundamental principles involved in the manufacture of organic compounds.

ECH 4705 Electrochemical Engineering. F.
Credits: 2; Prereq: ECH 4403; Coreq: ECH 4264.
Application of the princples of transport phenomena and mass transfer theory to the analysis of electro chemical processes, and to problems of scale-up and design.

ECH 4724 Interfacial Phenomena for Engineers.
Credits: 2; Prereq: CHM 2043 or consent of instructor.
Theoretical and Practical aspects of interfaces and surfactants in wetting, solubilization, foams, and emulsions, lubrication, flotation of minerals, and biomedical applications.

ECH 4824 Materials of Chemical Engineering. S.
Credits: 2; Prereq: ECH 4123.
Relations between microscopic structure and macroscopic mechanical, thermal, and electrical properties of organic and inorganic solids. Engineering applications, including corrosion.

ECH 4825 Polymeric Materials. F.
Credits: 2; Prereq: CHM 3211.
Theoretical and practical aspects of plastics, elastomers, fibers, coatings and other polymeric materials.

ECH 4842 Mathematical Methods in Chemical Engineering. S.
Credits: 2; Prereq: CAP 3210 or consent of instructor.
The application of mathematics to chemical engineering calculations, including ordinary, and partial differential equations. Numerical, analytical and computer calculations.

ECH 4905 Special Problems in Chemical Engineering. F, S, SS.
Credits: 1 to 6. May be repeated for a maximum of 12 credits.

ECH 4934 Professional Seminar. F, S, SS.
Credits: 1

ECH 4944 Practical Work in Chemical Engineering. F, S, SS.
Credits: 1 to 5.

ECH 4949 Co-op Work Experience. F, S, SS.
Credits: 1††; maximum of 5; Prereq: Freshman year.
Practical co-op work experience under approved industrial supervision, as set forth in College Regulations.

GRADUATE COURSES

ECH 5344L Process Systems Laboratory. S.
Credits: 2

ECH 5708 Disinfection, Sterilization, and Preservation. S.
Credits: 2

ECH 6126 Thermodynamics of Reaction and Phase Equilibria. F.
Credits: 3

ECH 6146 Applied Statistical Mechanics. F.
Credits: 2

ECH 6147 Statistical Thermodynamics. S.
Credits: 2

ECH 6159 Seminar in Thermodynamics. S.
Credits: 2. Maximum of 8 credits.

ECH 6206 Turbulent Transport Phenomena.
Credits: 2

ECH 6207 Rheology.
Credits: 2

ECH 6208 Non-Newtonian Fluid Dynamics.
Credits: 2

ECH 6226 Heat Transfer Operations.
Credits: 2

ECH 6261 Introduction to Transport Phenomena. F.
Credits: 3

ECH 6263 Advanced Transport Phenomena. S.
Credits: 2-3

ECH 6269 Seminar in Transport Phenomena.
Credits: 2. Maximum of 8 credits.

ECH 6285 Transport Phenomena. S.
Credits: 1-3

ECH 6286 Interfacial Transport Phenomena.
Credits: 2

ECH 6296 Transport Properties and Irreversible Thermodynamics.
Credits: 2

ECH 6306 Process Dynamics 1. F.
Credits: 2

ECH 6307 Process Dynamics 2. S.
Credits: 2

ECH 6326 Computer Control of Processes. F.
Credits: 2

ECH 6328 Seminar in Process Control
Credits: 2. Maximum of 8 credits.

ECH 6406 Mass Transfer Operations. S.
Credits: 2

ECH 6413 Stagewise Separations Processes.
Credits: 2

ECH 6428 Advances in Separations Processes.
Credits: 2

ECH 6506 Chemical Engineering Kinetics. F.
Credits: 3

ECH 6526 Reactor Design and Optimization. S.
Credits: 3

ECH 6606 Process Economy Analysis.
Credits: 2

ECH 6626 Optimization Techniques.
Credits: 2

ECH 6627 Process Systems Optimization.
Credits: 2

ECH 6646 Process Equipment Design.
Credits: 2

ECH 6647 Process and Plant Design.
Credits: 2

ECH 6666 Design Techniques for Process Systems.
Credits: 2

ECH 6688 Advances in Process Systems Engineering.
Credits: 2

ECH 6706 Chemical Energy Conversion.
Credits: 2

ECH 6707 Process Engineering.
Credits: 2

ECH 6726 Interfacial Phenomena 1. S.
Credits: 2

ECH 6727 Interfacial Phenomena 2.
Credits: 2

ECH 6746 Biochemical Engineering.
Credits: 2

ECH 6766 Particulate Systems.
Credits: 2

ECH 6826 Engineering Properties of Organic Materials.
Credits: 2

††Grading is on S-U basis only.

CHEMISTRY

ECH 6827 Macromolecular Materials.
Credits: 2

ECH 6844 Chemical Engineering Calculations.
Credits: 2

ECH 6845 Models and Methods. F.
Credits: 3

ECH 6846 Multidimensional and Discrete Systems.
Credits: 2

ECH 6847 Applied Field Theory.
Credits: 2

ECH 6848 Applied Statistics and Probabilistic Systems.
Credits: 2

ECH 6849 Advances in Numerical and Analytical Computation.
Credits: 2

ECH 6905 Individual Work.
Credits: 1 to 6; max. 12

ECH 6910 Supervised Research.
Credits: 1 to 5††; max. 9

ECH 6926 Graduate Seminar. F, S.
Credits: 1; max. 10

ECH 6936 Advanced Seminar in Chemical Engineering.
Credits: 1 to 2. Maximum of 8 credits.

ECH 6937 Special Topics in Chemical Engineering 1.
Credits: 1 to 4. Maximum of 9 credits.

ECH 6939 Special Topics in Chemical Engineering 3.
Credits: 1 to 4. Maximum of 9 credits.

ECH 6940 Supervised Teaching.
Credits: 1 to 5††

ECH 6969 Research Proposal Preparation
Credits: 1 to 2; maximum of 4 credits.

ECH 6971 Master's Research.
Credits: 1 to 15††

ECH 7938 Special Topics in Chemical Engineering.
Credits: 1 to 4; max. 8

ECH 7980 Doctoral Research.
Credits: 1 to 15††

CHEMISTRY
College of Liberal Arts & Sciences

INSTRUCTIONAL STAFF 1981-82

Ohrn, N.Y., Chairman; Bartlett, R.; Battiste, M.A.;Brev, W.S., Jr.; Butler, G.B.; Colgate, S.O.; Deyrup, J.A.; Dill K.; Dolbier, W.R., Jr.; Dorsey, J.G.; Dose, E.V.; Dresdner, R.D.; Eyler, J.R.; Gabrielsen, B.; Hanrahan, R.J.; Helling, J.F.; Hogen Esch, T.E.; Jones, W.M.; Katritzky, A.R.; Kemal, C.; King, R.W.; Laitinen, H.A.; Lowdin, P.O.; Micha, D.A.; Muga, M.L.; Muschlitz, E.E., Jr.; Myers, G.H.; Palenik, G.J.; Person, W.B.; Reid, C.E.; Ryschkewitsch, G.E.; Schmid, G.M.; Sisler, H.H.; Stoufer, R.C.; Vala, M.T.; VanderWerf, C.A.; Weltner, W., Jr.; Williams, K.R.; Winefordner, J.D.; Yost, R.A.; Zoltewicz, J.A.

All Chemistry Majors must complete at least the following Program (which may include equivalent transfer course work): General Chemistry (CHM 2040-2041-2042L-2043C or CHM 2042-CHM 2042L-2043C or CHM 2051C-2052C), Analytical Chemistry (CHM 3120-3120L-4131-4131L), Organic Chemistry (CHM 3210-3211-3211L), Inorganic Chemistry (CHM 3610), Physical Chemistry (CHM 4411-4411L-4412), Calculus and Differential Equations (MAC 3311-3312, MAP 3302), and Physics with Calculus (PHY 2048-204BL-2049-2049L). CHM 2053C may be substituted for CHM 2043C. It is recommended that MAC 3313 be taken also. Students entering the College of Liberal Arts and Sciences prior to June, 1980, may elect to graduate under requirements stated in the catalog current when they entered the college.

Completion of the above courses and their prerequisites will satisfy the minimum requirements of the College of Liberal Arts and Sciences for a major in chemistry. Any language acceptable to the College of Arts and Sciences may be taken with this minimum program.

A.C.S. Certified Program: To receive American Chemical Society certification and an adequate preparation for the profession, a student must complete the above program and obtain credit for CHM 4412L and at least two additional credits in advanced chemistry. Students who have completed the shorter quarter system organic sequence must also obtain credit for CHM 4230 or 4380. The language requirement must be met in German, French or Russian.

The student is advised, when possible, to complete the following or their equivalent during the first two years: four semesters of chemistry, three semesters of calculus, and two semesters of physics.

Preprofessional students: (pre-med, pre-dent., etc.) Normally complete the minimum program and additional courses chosen with the help of the adviser. They are also normally advised to obtain credit for BSC 2010C-2011C and additional courses in the biological sciences. Any language acceptable to the College of Liberal Arts and Sciences is appropriate for the minimum program and preprofessional requirements.

Premedical and predental students are advised to not take CLEP exams in physical sciences, biological sciences, and fundamental mathematics as these would generate credits below the level at which such students would normally be taking courses. In a competitive program it is important to present a sound overall record. Those choosing to take CLEP exams in English, humanities, and social sciences should also complete some additional course credits in these areas above the general education level.

Chemistry Education Program: Students wishing to receive a degree in Chemistry through the College of Liberal Arts and Sciences may simultaneously obtain accreditation for teaching secondary school chemistry. Such students should complete the minimum program outlined above and also apply for admission to the several phases of the Teacher Education Program, complete the professional education course work and a teaching internship as outlined in the College of Education section of the catalog. For additional information, see Dr. G. H. Myers in 340 Leigh Hall.

Honors Courses: The chemistry department offers honors sequences paralleling its 2000 and 3000 level courses which offer superior students smaller classes and a more individualized and intensive educational opportunity. The various honor sequences are not prerequisite for each other — for example, one may apply for Organic Chemistry Honors after having completed any of the General Chemistry sequences. Students with above average performance records are encouraged to apply for enrollment in these courses. A number of 4000 level courses are offered each year which are appropriate for Junior and Senior students. Seniors may also apply to take graduate (5000 and 6000 level) courses. Because of the size of the department and its active graduate program, a wide variety of opportunities exists for undergraduates to take advanced level coursework and to conduct research.

Baccalaureate Honors: Honors will be awarded to chemistry majors who earn an overall upper division grade point average of 3.5 or higher and a 3.3 average or higher in all chemistry work attempted, exclusive of CHM 4910, and complete a minimum of 6 semester hours of CHM 4910 (Senior Research). In addition a thesis based on the research project must be presented to the department of chemistry along with the recommendation of the student's research supervisor. This thesis must contain both discussion and experimental results. High honors can be awarded to students whose thesis is of exceptional merit. The research will normally be carried out under the direction of a member of the chemistry faculty. With departmental approval, a problem that is chemical in nature may be conducted outside the chemistry department. The student should see Dr. J. A. Deyrup in 328A Chemistry Research Building to obtain approval for this option.

Entry into this honors program requires prior agreement between the student and his proposed research supervisor on the nature and duration of the research project.

The following exceptions to the general rule for course equivalencies may be of interest to transfer students: 1. All courses in the 900-999 series must be evaluated individually. 2. Sequences of courses are equivalent as a whole. The individual courses having the same number within the sequences are not necessarily equivalent. They must be evaluated on an individual basis.

General Chemistry: The following general chemistry sequences are offered: CHM 1020-1021, CHM 2040-2041-2042L-2043C, CHM 2042-2042L-2043C, and CHM 2051C-2052C. CHM 2053C may be substituted for CHM 2043C for qualified students.

CHM 1020-1021 is a terminal course not appropriate for science and engineering students.

All 2000 level General Chemistry students must have a functional command of High School Algebra II, MAC 1132, or the equivalent.

An examination to aid in the placement of students into the proper general chemistry sequence must be taken prior to registration. Examinations for a given term are given on the first day of early registration and on the first day of classes in the evening. Students must take the test on one of these days for entry in that term. Scores on previous examinations are not valid. The examination tests background in aspects of high school algebra and high school chemistry. Admission to the 2000 level general chemistry sequence is contingent on achieving a certain minimum score on this test. Students scoring in excess of this minimum are advised to take the course for which they have qualified.

Students who do not achieve the minimum score may repeat the examination without prejudice but only for registration in a subsequent term.

CHM 2040-2041-2042L-2043C is a three semester sequence designed for students having some background in high school chemistry who have achieved lower scores in the placement examinations. Students with SAT scores between 900 and 1080 tend to fall in this category.

CHM 2042-2042L-2043C is a two semester sequence for students with adequate background in high school chemistry who have achieved higher scores in the placement examination. A minimum SAT score of 1080 total and 530 quantitative is generally necessary. This is the main stream General Chemistry sequence.

CHM 2051C-2052C is the general chemistry honors sequence for which students may enroll only through the invitational honors program, or with the special permission of the Department of Chemistry.

CHM 2053C is a semester honors course which may be substituted for CHM 2043C. Admission to this course is by invitation or by special permission of the Department of Chemistry.

Prospective transfer students are strongly encouraged to take all of their General Chemistry work at a single institution. Most transfer students who have completed one semester or one or two quarters at another university or community college should register for CHM 2041-2042L rather than for CHM 2043C.

Questions relating to the General Chemistry

††Grading is on S-U basis only.

program should be directed to a Chemistry undergraduate advisor who may be contacted in 200 LEI.

Registered students must attend all scheduled classes and laboratories during the first week of classes or notify their lecture instructor. Absentees will be assumed to be dropping and their place will be made available to students waiting to add the course.

Priority System: In instances where the demand for enrollment exceeds the capacity of the available facilities and chemistry staff, a priority system will be used. The system favors those students making satisfactory progress through a particular course sequence. First priority will be given to students attempting to register for a course for the first time and, for second and subsequent courses, to those who have completed the preceding course with a grade of C or better. Second priority will be given to students who have previously registered for the course and to those who have completed the preceding course with a grade of D. Whenever this system needs to be implemented students with first priority will be given first opportunity to add a course. Second priority students may add a course later in the drop/add period on a space available basis. In extreme cases it may be necessary to displace previously registered students with second priority.

Chemistry

CHM 1020 Chemistry and Society. F.
Credits: 3
The first half of the CHM 1020-1021 sequence. A terminal course for non-science students that presents chemistry and its relations to, and effects on, modern society. Topics in inorganic, organic, bio and environmental chemistry.

CHM 1021 Chemistry and Society. S.
Credits: 3; Prereq: CHM 1020 or equivalent.
The second half of CHM 1020-1021.

CHM 2040 Introductory General Chemistry. F, S, SS.
Credits: 3; Prereq: MAC 1132 or equivalent, some high school chemistry and a minimum score of 40 on the chemistry placement test.
The first semester of the CHM 2040-2041C-2042L-2043C sequence. An introduction to the elementary principles of modern chemistry, including units and measures, stoichiometry, energy, chemical calculations, structure and properties of matter, chemical bonding. Unless a student has taken three years of high school mathematics and achieved a score of 530 or higher in the mathematics portion of the SAT, it is required that MAC 1132 be taken prior to this course. This course is to be followed by CHM 2041 but this will be allowed only if a grade of "C" or better has been earned in CHM 2040.

CHM 2041 General Chemistry. F, S, SS.
Credits: 3; Prereq: CHM 2040 or its equivalent with a grade of C or better. Coreq: CHM 2042L.
The second semester of the CHM 2040-2041-2042L-2043C sequence. Chemistry of some representative elements, rates of reaction, equilibrium, electrolyte solutions, acids and bases.

CHM 2042 General Chemistry and Qualitative Analysis. F, S, SS.
Credits: 3; Prereq: MAC 1132 or equivalent high school chemistry, and a minimum score of 60 on the chemistry placement test. Coreq: CHM 2042L.
The first semester of the CHM 2042-2042L-2043C sequence. Stoichiometry, gases, liquids, and solids, atomic structure and introduction to bonding, chemistry of some representative elements, acids and bases, reaction rates and equilibrium.

CHM 2042L General Chemistry Laboratory. F, S, SS.
Credits: 1; Coreq: CHM 2041 or CHM 2042.
Laboratory experiments designed to accompany CHM 2041 and 2042.

CHM 2043C General Chemistry and Qualitative Analysis. F, S, SS.
Credits: 4; Prereq: CHM 2041 or 2042 and CHM 2042L.
Final semester of the CHM 2040-2041-2042L-2043C and the CHM 2042-2042L-2043C sequence. Directed bonding, molecular geometry, equilibria in salt solutions, chemistry of transition metals, complex ions, non-metals, thermodynamic principles and electrochemistry. Laboratory experiments involving the separation and detection of ions in aqueous solution.

CHM 2049 Introductory General Chemistry-Alternate. S.
Credits: 5; Prereq: MAC 1132 and consent of instructor. Admission limited to students in special services program.
An alternative course to replace CHM 2040 for students requiring additional background for general chemistry. Basic scientific principles, quantitative-qualitative relationships, problem solving, chemical formulas and equations, mole concept and stoichiometry, thermochemistry, atomic structure, chemical bonding and molecular structure. This course is to be followed by CHM 2041 and 2042L, but this will be allowed only if a grade of "C" or better is earned in CHM 2049.

CHM 2051C General Chemistry Honors.
Credits: 4
First course of the sequence CHM 2051C-2052C which has the same goals as the sequence CHM 2042-2042L-2043C, but is open mainly to students with a very good background, who desire a chemistry course with more depth. Enrollment in this course is achieved only through the invitational honors program or with the permission of the department of chemistry. This course is offered in the Fall semester, only.

CHM 2052C General Chemistry Honors.
Credits: 4; Prereq: CHM 2051C.
Second Semester of the sequence CHM 2051C-2052C.

CHM 2053C General Chemistry Honors. S.
Credits: 4; Prereq: 2041 or 2042, CHM 2042L, and consent of instructor.
An alternative final term offered for superior students to be taken in place of CHM 2043C in completing the General Chemistry program. Treatment of the topics offered in CHM 2043 to greater depth.

CHM 3120 Analytical Chemistry I. F, S, SS.
Credits: 3; Prereq: CHM 2043C, 2052C or 2053C.
Principles involved in quantitative analysis. Topics include: acid-base equilibria and titrations; precipitation and complex formation; oxidation-reduction; statistical treatment of data; sampling methods.

CHM 3120L Analytical Chemistry Laboratory I. F, S, SS.
Credits: 1; Prereq. or Coreq: CHM 3120 or equivalent.
Laboratory experiments designed to accompany CHM 3120.

CHM 3200 Organic Chemistry. F, SS.
Credits: 3; Prereq: CHM 2043C or equivalent.
A brief elementary course embracing the more important aliphatic and aromatic compounds. (This lecture course may not be taken without the corresponding laboratory course without permission of the Chairman of the Chemistry Department, unless the student is majoring in physics or chemical engineering.)

CHM 3200L Organic Chemistry Laboratory. F, SS.
Credits: 1; Coreq: CHM 3200.
Organic laboratory experiments to accompany CHM 3200.

CHM 3210 Organic Chemistry. F, S, SS.
Credits: 3; Prereq: CHM 2043C or equivalent.
The first half of the CHM 3210-3211 sequence. A study of the structures, syntheses and reactions of organic compounds.

CHM 3211 Organic Chemistry. F, S, SS.
Credits: 3; Prereq: CHM 3210.
The second half of the CHM 3210-3211 sequence.

CHM 3211L Organic Chemistry Laboratory. F, S, SS.
Credits: 2; Coreq: CHM 3211.
Organic laboratory experiments to accompany CHM 3211.

CHM 3215 Organic Chemistry — Honors. F.
Credits: 3; Coreq: CHM 3215L. Prereq: two semesters of college chemistry or its equivalent and consent of instructor.
This course will cover the subject material of CHM 3210 in greater depth.

CHM 3215L Organic Chemistry Laboratory—Honors. F.
Credits: 1; Coreq: CHM 3215.
Basic techniques and instrumentation of the organic chemistry research laboratory.

CHM 3216 Organic Chemistry — Honors. S.
Credits: 3; Prereq: CHM 3215. Coreq: CHM 3216L.
This course will cover the subject material of CHM 3211 in greater depth.

CHM 3216L Organic Chemistry Laboratory—Honors. S.
Credits: 1; Coreq: CHM 3216.
Research experiments in organic chemistry.

CHM 3400 Physical Chemistry. F, S.
Credits: 3; Prereq: CHM 3120, MAC 3312 and two semesters of college physics. Coreq: CHM 3210 or 3200.
Properties of gases and liquids, thermodynamics, solutions of nonelectrolytes and electrolytes, acid-base and oxidation-reduction equilibria, with emphasis on biological systems.

CHM 3401 Physical Chemistry. S, SS.
Credits: 3; Prereq: CHM 3400.
Molecular structure and bonding, spectroscopy, colloidal and macromolecular systems, and chemical kinetics, with bio-chemical applications.

CHM 3401L Physical Chemistry Laboratory. S, SS.
Credits: 1; Prereq: CHM 3120L. Coreq: CHM 3401.
A series of laboratory experiments designed to accompany CHM 3401.

CHM 3610 Inorganic Chemistry. S, SS.
Credits: 3; Prereq: CHM 3211 and CHM 3211L or equivalent.
Basic theoretical concepts involved in inorganic chemistry. Bonding, structure and reactivity, reaction mechanisms. Examples of industrial reactions.

CHM 4060 Chemistry Literature. F.
Credits: 1; Prereq: 3 years of chemistry.
A reading knowledge of French and German is desirable. The present sources of published chemical information.

CHM 4131 Analytical Chemistry II. F, S, SS.
Credits: 3; Prereq: CHM 3120, MAC 3312 and PHY 2048 or equivalent.
Continuation of CHM 3120. Electrochemical, chromatographic and spectroscopic methods of analysis.

CHM 4131L Analytical Chemistry II Laboratory. F, S, SS.
Credits: 2; Prereq: CHM 3120L; Coreq: CHM 4131.
Laboratory experiments designed to accompany CHM 4131.

CHM 4230 Organic Spectroscopy. F.
Credits: 2; Prereq: CHM 3211.
Characterization and structure proof of organic compounds by spectral methods, including IR, UV, NMR and mass spectrometry.

CHM 4380 Current Topics in Organic Chemistry. F.
Credits: 2; Prereq: CHM 3211.
Modern synthetic reactions, molecular rearrange-

ments, elements of physicalorganic chemistry, heterocyclic compounds, organic chemistry of the second row elements, natural products, pericyclic reactions, free radical chemistry, and photochemistry.

CHM 4411 Physical Chemistry. F, S, SS.
Credits: 4; Prereq: One year of General Chemistry, one year of Physics with Calculus. Background in analytical and organic chemistry desirable. Coreq: MAP 3302.
Gas laws, kinetic theory. Classical and statistical thermodynamics and applications to solutions, phase equilibria, chemical equilibria, and electrochemistry.

CHM 4411L Physical Chemistry Laboratory. F, S, SS.
Credits: 2; Prereq: CHM 3120L. Coreq: CHM 4411.
A series of laboratory experiments designed to accompany CHM 4411.

CHM 4412 Physical Chemistry. F, S, SS.
Credits: 3; Prereq: CHM 4411.
Introduction to quantum theory. Atomic and molecular structure, chemical bonding and spectra. Chemical reaction rate laws and mechanisms; statistical and collision theories of reaction rates.

CHM 4412L Physical Chemistry Laboratory. F, S, SS.
Credits: 2; Prereq: CHM 4411L. Coreq: CHM 4412.
A series of laboratory experiments designed to accompany CHM 4412.

CHM 4740L Integrated Laboratory. F.
Credits: 2; Prereq: CHM 4131L or equivalent.
A course designed to present a unified approach to advanced organic, physical-chemical, and instrumental analytical laboratory techniques. Laboratory program may be tailored to the student's requirements. May be repeated for additional credit.

CHM 4905 Individual Problems. F, S, SS.
Credits: 1 to 3; Prereq: permission of the faculty member supervising the work.
May be repeated for additional credit. Double registration permitted. An assigned reading program or the development of an assigned experimental problem.

CHM 4910 Senior Research. F, S, SS.
Credits: 1 to 3; Prereq. or Coreq: CHM 4060. Senior standing and consent of instructor.
Laboratory or literature investigations of chemical problems of current interest. May be repeated for additional credit.

CHM 4940 Supervised Teaching. F, S, SS.
Credits: 1 to 2; Prereq: Senior standing and consent of instructor.
Teaching, usually at the General Chemistry level. Required is a superior record at UF in the course in which the student will assist, senior standing as a chemistry major with a good record, and evidence that the student's own progress will not be delayed.

GRADUATE COURSES
Chemistry

CHM 5157 Analytical Processes.
Credits: 3; Prereq: CHM 3120 and 4411.

CHM 5224 Basic Principles for Graduate Organic Chemistry.
Credits: 2; Prereq: One year of undergraduate organic chemistry.

CHM 5235 Organic Spectroscopy.
Credits: 3; Prereq: CHM 3211.

CHM 5272 The Organic Chemistry of Polymers.
Credits: 3; Prereq: CHM 3210, 3200 or equivalent.

††Grading is on S-U basis only.

CHM 5300 Chemistry of Biological Molecules.
Credits: 3; Prereq: CHM 3211 or 3216 and CHM 4412 or CHM 3401 or consent of instructor.

CHM 5413L Advanced Physical Chemistry Laboratory.
Credits: 2; Prereq: CHM 4412L.

CHM 5511 The Physics and Physical Chemistry of Polymers.
Credits: 3; Prereq: CHM 4411 or equivalent.

CHM 5511L Polymer Chemistry Laboratory.
Credits: 1; Prereq. or Coreq: CHM 5511.

CHM 5514 Chemical Computation.
Credits: 2; Prereq: CHM 4412 and a knowledge of FORTRAN Programming.

CHM 5626 Modern Inorganic Chemistry. F.
Credits: 3; Prereq: CHM 3610, CHM 4411 or equivalent.

CHM 5631L Advanced Inorganic Synthesis. SS.
Credits: 2; Prereq: CHM 3610 or equivalent.

CHM 6140 Advanced Research Techniques in Chemistry.
Credits: 2 to 3; max. 8.

CHM 6153 Electrochemical Processes.
Credits: 2

CHM 6153L Electromechanical Methods Laboratory.
Credits: 1; Coreq: CHM 6153.

CHM 6154 Chemical Separations.
Credits: 2

CHM 6154L Chemical Separations Methods Laboratory.
Credits: 1; Coreq: CHM 6154.

CHM 6155 Spectrochemical Methods.
Credits: 2

CHM 6155L Spectrochemical Methods Laboratory.
Credits: 1; Coreq: CHM 6155.

CHM 6158C Electronics and Instrumentation.
Credits: 1 to 3; max. 6.

CHM 6180 Special Topics in Analytical Chemistry.
Credits: 1 to 3; max. 9.

CHM 6190 Analytical Chemistry Seminar.
Credits: 1

CHM 6225 Advanced Organic Chemistry.
Credits: 3

CHM 6226 Advanced Organic Chemistry.
Credits: 2

CHM 6227 Advanced Organic Chemistry.
Credits: 4

CHM 6251 Organometallic Compounds.
Credits: 3

CHM 6260 Physical-Organic Chemistry.
Credits: 2

CHM 6270 The Chemistry of Heterocyclic Compounds.
Credits: 2

CHM 6271 Chemistry of High Polymers.
Credits: 2

CHM 6271L High Polymer Chemistry Laboratory.
Credits: 1

CHM 6381 Special Topics in Organic Chemistry.
Credits: 1 to 3; max. 9.

CHM 6390 Organic Chemistry Seminar.
Credits: 1

CHM 6430 Chemical Thermodynamics.
Credits: 3

CHM 6440 Advanced Chemical Kinetics.
Credits: 3

CHM 6449 Photochemistry.
Credits: 2

CHM 6461 Statistical Thermodynamics.
Credits: 3

CHM 6470 Chemical Bonding and Spectra. 1.
Credits: 3

CHM 6471 Chemical Bonding and Spectra. 2.
Credits: 2

CHM 6480 Elements of Quantum Chemistry.
Credits: 3

CHM 6481 Quantum Theory of Matter 1.
Credits: 3

CHM 6482 Quantum Theory of Matter 2.
Credits: 3

CHM 6490 Theory of Molecular Spectroscopy.
Credits: 3; Coreq: CHM 6471.

CHM 6510 Physical Chemistry of Surfaces and Colloids.
Credits: 3

CHM 6512 The Physical Chemistry of Polymers.
Credits: 2

CHM 6515 Radiation Chemistry.
Credits: 2

CHM 6520 Chemical Physics.
Credits: 3

CHM 6580 Special Topics in Physical Chemistry.
Credits: 1 to 3. Maximum of 12 credits.

CHM 6590 Physical Chemistry Seminar.
Credits: 1

CHM 6620 Advanced Inorganic Chemistry.
Credits: 3

CHM 6622C Inorganic Preparations.
Credits: 4

CHM 6623 Chemistry of the Metals.
Credits: 3

CHM 6624 Chemistry of the Nonmetals.
Credits: 3

CHM 6680 Special Topics in Inorganic Chemistry.
Credits: 1 to 3. Maximum of 12 credits.

CHM 6690 Inorganic Chemistry Seminar.
Credits: 1

CHM 6710 Applied Molecular Spectroscopy.
Credits: 3

CHM 6720 Chemical Dynamics.
Credits: 3

CHM 6730 Chemical Transformations.
Credits: 3

CHM 6905 Individual Problems, Advanced Graduate.
Credits: 3 to 5; max. 10. Prerequisite: Permission of faculty member supervising the work.

CHM 6910 Supervised Research.
Credits: 1 to 5††

CHM 6935 Chemistry Colloquium.
Credits: 1††; Maximum of 7.

CHM 6940 Supervised Teaching.
Credits: 1 to 5††

CHM 6971 Master's Research.
Credits: 1 to 15††

CHM 7485 Special Topics in Theory of Atomic and Molecular Structure.
Credits: 1 to 3; max. 9.

CHM 7980 Doctoral Research.
Credits: 1 to 15††

Chemistry — Specialized
GRADUATE COURSES

CHS 5110 Radiochemistry.
Credits: 2; Prereq: CHM 3401 or 4412, or consent of instructor.

CHS 5110L Radiochemistry Laboratory.
Credits: 1; Prereq: CHM 3120 and 3401 or 4412, or consent of instructor.

CHS 6120 Nuclear Chemistry.
Credits: 3

CIVIL ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1981-82

Schaub, J.H., Chairman; Aguilar, A.M.; Benedict, B.A.; Christensen, B.A.; Collier, C.A.; Coons, W.W.; Courage, K.G.; Davidson, J.L.; Fagundo, F.E.; Gibson, D.W.; Hays, C.O.; Hedgecock, C.R.; Herbsman, Z.; Long, G.; Lybas, J.M.; Rubin, H.; Ruth, B.E.; Self, M.W.; Shafer, W.G.; Spangler, B.D.; Townsend, F.C.; Wallace, C.W.; Wattleworth, J.A.; Whitehead, W.J.; Zimpfer, W.H.

ADJUNCT AND AFFILIATE STAFF

Brooks, H.K.; Deere, D.U.; Eades, J.L.; Huber, W.C., Schmertmann, J. H.

Civil Engineering
Structures

***CES 3103 Stress Analysis. F, S.**
Credits: 2; Prereq: CES 3123.
Analysis of framed structures by the stiffness method. Introduction to the finite element method.

***CES 3123 Mechanics of Engineering Structures. F, S, SS.**
Credits: 4; Coreq: EGM 3520.
Stress and deformation analysis of framed structures. Influence lines, criteria for critical loading, moment area, virtual work, slope deflection, and consistent deformation.

***CES 4034 Structural Estimating. F, SS.**
Credits: 3; Prereq: ECI 4137, 4145, and junior or senior standing.
Design of systems for estimating and cost control of man-machine productivity for civil engineering projects. Analysis of cost factors required for optimization of engineering-investment efficiency.

***CES 4607 Analysis and Design in Steel. F, S.**
Credits: 3; Prereq: ECI 3403, CES 3123.
Elastic and plastic theories of design, design of members subjected to tension, compression, flexure, torsion. Design of connections and rigid frames.

***CES 4704 Design of Reinforced Concrete. F.**
Credits: 3; Prereq: CES 4705.
Continuation of CES 4705. Ultimate strength analysis and design, torsion, two-way slabs, footings, walls, buildings, prestressed concrete flexural members.

***CES 4705 Analysis and Design in Reinforced Concrete. F, S, SS.**
Credits: 3; Prereq: ECI 3403, CES 3123.
Ultimate strength analysis and design of reinforced concrete members, working stress design for flexure, moment distribution, influence lines, design of rigid frames, introduction to prestressed concrete.

GRADUATE COURSES

CES 5305 Design of Structural Systems.
Credits: 2

CES 5325 Design of Highway Bridges.
Credits: 3

CES 5607 Behavior of Steel Structures.
Credits: 3

CES 5726 Design of Concrete Systems.
Credits: 3

CES 5801 Design and Construction in Timber.
Credits: 2

CES 6106 Advanced Structural Analysis 1.
Credits: 4

CES 6108 Advanced Structural Analysis 2.
Credits: 4

CES 6136L Advanced Structural Laboratory.
Credits: 2

CES 6526 Nonlinear Structural Analysis and Design.
Credits: 2

CES 6551 Design of Folded Plates and Shells.
Credits: 3

CES 6706 Advanced Reinforced Concrete.
Credits: 3

CES 6716 Advanced Prestressed Concrete.
Credits: 2

Engineering: Civil

***ECI 3213 Hydrodynamics. F, S, SS.**
Credits: 4; Prereq: EGM 3511, 3400 (or 3420) and MAP 3302 (or EGM 3311).
Classification of fluids. Hydrostatics. Similitude. Conservation of mass, energy and momentum. Potential flow. Influence of viscosity and turbulence in the flow of water.

***ECI 3403 Civil Engineering Materials. F, S.**
Credits: 3; Prereq: EGM 3520
A study of the principal materials used for engineering purposes with special attention to their mechanical properties and the importance of these properties to the engineer.

***ECI 4041 Computer Methods in Civil Engineering. F, S.**
Credits: 3; Prereq: Senior status and COP 3212.
Review of digital computer programming using source languages such as FORTRAN and BASIC. Development and documentation of civil engineering design programs stressing matrix and numerical methods.

***ECI 4131 Construction Contracts and Specifications. F, S.**
Credits: 2; Prereq: Senior status or permission of instructor.
Construction contracting, legal aspects, insurance, liability, liens, specifications, contract documentation and labor relations.

***ECI 4137 Civil Engineering Cost Analysis. F, S.**
Credits: 3; Prereq: Junior or senior status.
Analysis of civil engineering proposals utilizing time-value and related factors. Feasibility and optimum life comparisons. Utility rate derivation, utility/cost method.

***ECI 4145 Construction Methods and Management. F, S.**
Credits: 3; Prereq: Junior or Senior standing; Coreq: ECI 4137.
Theory and practice of construction operations, equipment utilization and construction methods. Analysis of costs. Optimizing crew and equipment. Heavy equipment costs.

ECI 4151 Practical Work in Civil Engineering. F, S, SS.
Credits: 1 to 3; Prereq: 4EG Classification.
One term industrial employment, including extra work according to a preapproved outline. Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

***ECI 4214 Hydraulics. F, S, SS.**
Credits: 3; Prereq: ECI 3213 or consent of instructor.
Fundamental equations for pipe and open conduit flow. Development of design oriented formulas for pipes and open channels. Introduction to hydrology.

***ECI 4305 Geotechnical Engineering. F, S.**
Credits: 3; Prereq: ECI 4314.
Subsurface exploration settlement analysis, shearing resistance, slope stability, earth pressure and an introduction to foundation design.

***ECI 4314 Soil Mechanics. S, SS.**
Credits: 3; Prereq: GLY 2026; Coreq: ECI 3403.
Physical properties of soils, compaction, flow of water through soil, distribution of stress within soil and consolidation. Laboratory.

ECI 4635 Advanced Hydrology. F, S.
Credits: 3; Prereq: ECI 4214 or consent of instructor.
Review of fundamentals of hydrology, Application of hydrology to hydraulic and transportation design including evaluation of runoff; design of control structures, detention and retention basis; flood plain mapping.

ECI 4905 Special Problems in Civil Engineering. F, S, SS.
Credits: 1 to 4; Maximum of 9 credits. Prereq: Recommendation of Department Chairman.
Selected problems or projects in the student's major field of engineering study.

ECI 4949 Co-op Work Experience. F, S, SS.
Credits: 1; Prereq: EG Classification. S-U option.
May be taken for credit with consent of department.

GRADUATE COURSES

ECI 5124 Civil Engineering Systems.
Credits: 3

ECI 5125 Construction Equipment and Procedures.
Credits: 2

ECI 5147 Construction Planning and Scheduling.
Credits: 2

ECI 5156 Value Engineering Theory.
Credits: 3

ECI 5157 Civil Engineering Feasibility Analysis.
Credits: 3

ECI 5166 Legal Aspects of Civil Engineering.
Credits: 3

ECI 5186 Public Works Planning.
Credits: 3

ECI 5235 Open Channel Hydraulics.
Credits: 3

ECI 5265 Hydraulics Machinery.
Credits: 2

ECI 5325 Foundation Design.
Credits: 3

ECI 5335 Insitu Measurement of Soil Properties.
Credits: 3

ECI 5355 Earth and Rockfill Dams.
Credits: 2

ECI 5437C Experimental Determination of Soil Properties I.
Credits: 3

ECI 5575 Remote Sensing Methods and Engineering Applications.
Credits: 3

††Grading is on S-U basis only.

Descriptions

CIVIL ENGINEERING

ECI 5625 Groundwater Flow I.
Credits: 3

ECI 6045 Computer Applications in Geotechnical Engineering.
Credits: 2

ECI 6153 Civil Engineering Practice.
Credits: 2; max. of 4.

ECI 6154 Civil Engineering Operations.
Credits: 2; max. of 4.

ECI 6223 Numerical Models in Hydraulics.
Credits: 3

ECI 6227 Diffusive and Dispersive Transport.
Credits: 2

ECI 6228 Hydraulic Laboratory and Field Practice.
Credits: 3

ECI 6233 Sediment Transport II.
Credits: 2

ECI 6234 Hydraulics of Stratified Flow.
Credits: 2

ECI 6237 Sediment Transport I.
Credits: 2

ECI 6238 Transient Flow in Channels and Pipes.
Credits: 3

ECI 6316 Advanced Soil Mechanics.
Credits: 3

ECI 6317 Theoretical Soil Mechanics.
Credits: 2

ECI 6346 Soil Dynamics.
Credits: 2

ECI 6416 Properties, Design and Control of Concrete.
Credits: 3

ECI 6426 Bituminous Materials.
Credits: 3

ECI 6436 Experimental Determination of Soil Properties II.
Credits: 3

ECI 6576 Air Photo Interpretation: Terrain Analysis.
Credits: 3

ECI 6605 Rock Mechanics and Engineering Geology.
Credits: 2

ECI 6610 Groundwater Problems in Geotechnical Engineering.
Credits: 2

ECI 6616 Groundwater Flow II.
Credits: 2

ECI 6645 Advanced Geotechnical Engineering I.
Credits: 4

ECI 6646 Advanced Geotechnical Engineering II.
Credits: 3

ECI 6905 Special Problems in Civil Engineering.
Credits: 1 to 6; max: 10

ECI 6910 Supervised Research.
Credits: 1 to 5††

ECI 6936 Graduate Civil Engineering Seminar.
Credits: 1; max. 2††

ECI 6940 Supervised Teaching.
Credits: 1 to 5††

ECI 6971 Research for Master's Thesis.
Credits: 1 to 15††

ECI 6974 Master of Engineering or Engineer Degree Report.
Credits: 1 to 6.††

††Grading is on S-U basis only.

ECI 7980 Research for Doctoral Dissertation.
Credits: 1 to 15††

Engineering: Environmental

***ENV 4404C Water Supply & Wastewater Removal. F, SS.**
Credits: 3
Source of supply quantity and quality requirements, collection, transmission and distribution of water. Collection, transportation and disposal of sewage and stormwater. Design of collection and distribution systems.

***ENV 4514C Treatment of Water and Wastewater. S, SS.**
Credits: 3
Introduction to the basic physical, chemical, and biological concepts involved in treatment of water and wastewater.

Engineering General

***EGN 4036 Engineering Professionalism and Ethics. F, S.**
Credits: 2; Prereq: Senior standing.
A discussion of professionalism and ethics in the practice of engineering. The development of the concepts of professionalism and ethics and the traditional practice of these concepts are considered in relation to changing situations in practice in a variety of employment conditions. Case histories will be discussed.

EGN 4822 Engineering and Public Works. S.
Credits: 2
For non-engineering students. A broad review of the nature and engineering aspects of the public services and facilities. Each public works function identified as to purpose and outlined as an engineering project. Problems in project development and interdisciplinary collaboration.

EGN 4834 Humanities and Engineering. F.
Credits: 3
Studies in the relationships between humanities and engineering for engineering students. The course will consider issues, values and judgments in technology against the background of studies in the humanities.

History: General

HIS 4470 History of Technology I. F.
Credits: 3
The development of technology and engineering from antiquity to approximately 1750 with emphasis on the relationship of this development to the growth of western civilization.

HIS 4471 History of Technology II. S.
Credits: 3
The development of technology and engineering from approximately 1750 to WW-I with emphasis on the relationship of this development to the changing patterns of life in western civilization.

Surveying

SUR 3101 Engineering Measurements. F, S, SS.
Credits: 2; Prereq: MAC 3311.
Angle, distance and elevation measurement. Application to engineering, boundaries, topography, forestry, and construction. Error theory.

SUR 3202 Construction Surveying. F.
Credits: 1
A survey of equipment and methods used in laying out construction projects, transit, tape, laser, level, batter boards, grade stakes, tunnelling.

SUR 3331 Photogrammetry. F, S.
Credits: 2; Prereq: MAC 3311
Photo interpretation and basic measurements. Geometry of vertical photographs. Mapping from photographs. Remote sensing.

SUR 3403 Land Surveying Principles. S.
Credits: 3; Prereq: SUR 3640, REE 3043.
Land boundaries, corners, areas; writing land descriptions, identification of land parcels; legal principles of boundary location, the government land survey system.

SUR 3520 Measurement Science. F.
Credits: 4; Prereq: MAC 3312, STA 3032.
Theory of measurement errors. Error propagation. Variance and covariance. Polynomial curve fitting. Regression analysis. Correlation. Least squares adjustments.

SUR 3521 Field Measurement Systems. S.
Credits: 3; Prereq: SUR 3101, 3520.
Comparative analysis of all major field surveying equipment. Error budgets. Theory of operations. Inertial and satellite methods. Indirect measurements.

SUR 3620 Interactive Land Data Computer Systems. F, S, SS.
Credits: 3; Prereq: COP 3212
Application of small interactive computer systems to land data acquisition, reduction, and management.

SUR 3640 Surveying Computations. F.
Credits: 2; Coreq: SUR 3101.
The principles of geometry applied to surveying computations. Computer methods.

SUR 3660 Professional Drafting for Surveyors. F, S.
Credits: 1
A study of the techniques and drawings used in land surveys. Computer methods.

SUR 4201 Route Geometrics. F, S, SS.
Credits: 3; Prereq: SUR 3101.
Geometric design of transportation systems. Computer applications. Comprehensive design project. Spiral curves, superelevation theory, earthwork analysis.

SUR 4305 Marine Surveying and Mapping. F.
Credits: 2; Prereq: Senior standing.
Methods of positioning points near shore and in open ocean, depth measurements, tide measurements.

SUR 4350 Photogrammetric Geometronics. F.
Credits: 3; Prereq: SUR 3331, 3521.
Stereographic mapping. Analytic control extension. Mapping from satellite imagery. Terrestrial mapping.

SUR 4430 Land Surveying Practice. S.
Credits: 3; Prereq: SUR 3521, 3403.
A study of land survey practice; the lot survey; the sectional survey, the water boundary survey; office and business practices; professional standing.

SUR 4451 Cadastral Information. F.
Credits: 1; Prereq: COP 3212.
Methods of constructing a multipurpose computer cadastre of position-related information.

SUR 4452 Land Development Systems. F.
Credits: 2; Prereq: ECI 4145
Introduction and familiarization with the basic engineering activities related to hydrology, water and waste management, and paving in small residential land developments.

SUR 4462 Subdivisions. S.
Credits: 2; Prereq: SUR 4452, REE 4430.
Legal requirements for subdividing land. Land development systems. Subdivision planning. Comprehensive project.

SUR 4501 Geodetic and Control Surveying. S.
Credits: 4; Prereq: SUR 3521, AST 3653.
Geodetic coordinate systems, plane projections, position and azimuth determination by astronomy, geodetic leveling, positional tolerance. Least squares adjustments, traditional control systems.

SUR 4912 Senior Project. F, S, SS.
Credits: 2; Prereq: Senior standing.
Laboratory, equipment, or literature investiga-

tions of surveying problems and concepts of current interest resulting in a written work. H.

SUR 4949 Co-op Work Experience. F, S, SS.
Credits: 1††; Prereq: EG Classification.

Transportation & Traffic Engineering

***TTE 4104 Fundamentals of Transportation Engineering. F, S.**
Credits: 3; Prereq. or Coreq: SUR 4201.
Planning, traffic elements, capacity signalization, interchanges, roadways, soils, drainage, materials, pavement design and construction.

***TTE 4724 Transportation Facility Design. S.**
Credits: 3; Prereq: TTE 4104.
Design and traffic considerations of transportation projects involving facility sizing, functional design, and layout of intersections; nonintersections and/or terminal locations.

GRADUATE COURSES

TTE 5006 Transportation Systems Planning.
Credits: 4

TTE 5105 Pavement Design.
Credits: 2

TTE 5256 Traffic Engineering.
Credits: 4

TTE 5701 Geometric Design of Transportation Facilities.
Credits: 3

TTE 6106 Soil Stabilization.
Credits: 2

TTE 6107 Highway Safety Analysis.
Credits: 2

TTE 6257 Traffic Control Systems.
Credits: 4

TTE 6267 Traffic Flow Theory.
Credits: 3

TTE 6307 Freeway Design and Operations.
Credits: 3

TTE 6516 Transportation Planning Decisions.
Credits: 2

TTE 6526 Airport Planning and Operations.
Credits: 2

TTE 6606 Urban Transportation Models.
Credits: 4

CLASSICS
INSTRUCTIONAL STAFF 1981-82

Schmeling, G.L., Chairman; Dickison, S.; Faber, A.; Hartigan, K.; Miller, D.G.; Sussman, L.

An undergraduate major in Classics is interdisciplinary in nature with an emphasis on Greek, Latin, or a combination. An undergraduate is required to complete either a) the 3000 level sequence in either Greek or Latin; or b) 10 credit hours of the beginning sequence in both Greek and Latin. In addition there is a requirement of 4 courses of the 2000 level or above (from any department) which deal with the ancient world. The department also offers a certificate program. Students are urged to consult an advisor when considering a major.

To graduate with departmental honors a student must attain a 3.5 average in the major (excluding courses below the 3000-level), and complete in the Senior year some special project approved as honors work. In cases where the thesis or project is of exceptional merit, the department may recommend to the Dean that High Honors be awarded.

Classical and Ancient Studies
(All courses indicated CLA or CLT are taught in English)

CLA 1100 The Glory that was Greece. F.
Credits: 3; Prereq: None.
A broad cultural view of the classical Greek world. Greek sources read in translation.

CLA 1120 The Grandeur that was Rome. S.
Credits: 3; Prereq: None.
Provides a multi-faceted introduction to the culture of Rome. Primary source material read in translation.

CLA 2700 Classical Archaeology. S.
Credits: 3; Prereq: None.
Illustrated lectures on archaeology, its process of discovery and methods. History of major archaeological exploration in Mediterranean lands compared with extant literary information.

CLA 2930 Special Topics in Classical Civilization. F, S.
Credits: 3; Prereq: None.
An examination of various aspects of Greek and Roman culture based on the ancient sources, literary and archaeological. With a change of topic, may be repeated for additional credit.

CLA 3114 Greece Today and Yesterday. F.
Credits: 3; Prereq: None.
An interdisciplinary course examining various aspects of ancient and modern Greek life and culture.

CLA 3501 Women in Classical Antiquity. S.
Credits: 3; Prereq: None.
The status of women in antiquity will be examined in light of modern thinking on the subject of women's roles in society.

CLA 3791 The Ancient City. F.
Credits: 3; Prereq: None.
An examination of the concepts and physical characteristics of Greek and Roman cities.

CLA 4905 Individual Study. F, S.
Credits: 1 to 4; Prereq: Consent of Instructor.
Reading, conference, and reports. All work done in translation. May be repeated for additional credit with change of content.

Classical Literature in Translation

CLT 2230 Ancient Novel. F.
Credits: 3; Prereq: None.
The development and influence of the ancient novel. All sources are read in translation and compared with saints' lives, medieval romances, and the earliest English novels.

CLT 2370 Myths of the Greeks and Romans. F.
Credits: 3; Prereq: None.
The development, importance, and influence of Greco-Roman mythology. The main Greek and Latin literary sources read in translation.

CLT 2371 Religions of the Graeco-Roman World. S.
Credits: 3; Prereq: None.
The development, importance, and influence of Greek and Roman religion and cult practice. The main literary and epigraphical sources read in translation.

CLT 3102 Survey of Roman Literature. S.
Credits: 3; Prereq: None.
Critical study of the development of Roman literature. Includes readings in such authors as Plautus, Cicero, Catullus, Vergil, Ovid, and Tacitus.

CLT 3291 Greek Drama. S.
Credits: 3; Prereq: None.
The Classical Greek theatre. Archaeological remains of important theatres. Selected plays of Aeschylus, Sophocles, Euripides, Aristophanes and Menander read in translation.

CLT 3340 Greek and Roman Epic. F.
Credits: 3; Prereq: None.
The origin, development, and importance of ancient epic. Emphasis on Homer and Vergil, read in translation.

CLT 4905 Individual Study. F, S.
Credits: 1 to 4; Prereq: Consent of Instructor.
Reading, conference and reports. With change of content, may be elected for additional credits. All work done in translation.

Health Science

HSC 2531 Health and Life Sciences Terminology.
Credits: 3; Prereq: None.
An intensive study of Greek and Latin word roots, suffixes and prefixes, and how they are used and combined to form the specialized vocabulary of the various health and life sciences.

Classical Greek Language

GRE 1121 Beginning Ancient Greek 1. F.
Credits: 5; Prereq: None.

GRE 1122 Beginning Ancient Greek 2. S.
Credits: 5; Prereq: GRE 1121.

Classical Greek Literature

GRW 2250 New Testament Greek. F.
Credits: 3; Prereq: Some knowledge of Greek and consent of the instructor.
Review of grammar and forms. Readings from several books of the New Testament.

GRW 3101 Survey of Greek Literature 1. F.
Credits: 3; Prereq: GRE 1122 or equivalent.
Study of representative texts of the fifth century B.C.

GRW 3102 Survey of Greek Literature 2. S.
Credits: 3; Prereq: GRE 1122 or equivalent.
Study of representative texts from various periods of Greek literature.

GRW 4905 Individual Work. F,S.
Credits: 1 to 4; Prereq: GRE 1122 or equivalent.
Reading, conference and reports. With change of content, may be elected for additional credit.

Modern Greek Language

GRK 1131 Beginning Modern Greek 1. F.
Credits: 5; Prereq: None.

GRK 1132 Beginning Modern Greek 2. S.
Credits: 5; Prereq: GRK 1131.

GRK 3200 Intermediate Modern Greek 1. F.
Credits: 3; Prereq: GRK 1132 or equivalent.
Readings in modern Greek literature, history and culture.

GRK 3201 Intermediate Modern Greek 2. S.
Credits: 3; Prereq: GRK 3200 or equivalent.
Readings in modern Greek literature, history and culture.

Modern Hebrew Language

A Placement Test will be given during the first class meeting.

HBW 1101 Beginning Modern Hebrew 1. F.
Credits: 5; Prereq: None.

HBW 1102 Beginning Modern Hebrew 2. S.
Credits: 5; Prereq: HBW 1101 (grade of C or better, or S) or equivalent.

HEB 3231 Intermediate Modern Hebrew 1. F.
Credits: 3; Prereq: HBW 1102 or equivalent.

††Grading is on S-U basis only.

Descriptions

CLINICAL PSYCHOLOGY

HEB 3232 Intermediate Modern Hebrew 2. S.
Credits: 3; Prereq: HBW 1102 or equivalent.

HEB 4905 Individual Work. F, S.
Credits: 1 to 4; Prereq: HBW 1102, 3232 or equivalent.

Latin Language

LAT 1120 Beginning Latin 1. F.
Credits: 4; Prereq: None.

LAT 1121 Beginning Latin 2. S.
Credits: 3; Prereq: LAT 1120 (grade of C or better, or S) or equivalent work.

LAT 1122 Beginning Latin 3. F.
Credits: 3; Prereq: LAT 1121 (grade of C or better, or S) or equivalent work.

LAT 1131 Accelerated Beginning Latin 1. F.
Credits: 5; Prereq: None.

LAT 1132 Accelerated Beginning Latin 2. S.
Credits: 5; Prereq: LAT 1131 (grade of C or better, or S) or equivalent.

Latin Literature

LAT 3231 Survey of Latin Literature 1. F.
Credits: 3; Prereq: LAT 1122, 1132 or equivalent work (e.g., 2-3 yrs. high school Latin).
Study of representative classical Roman poets (for example, Catullus, Ovid, or Tibullus). Review of grammar and forms.

LAT 3232 Survey of Latin Literature 2. S.
Credits: 3; Prereq: Same as for LAT 3231.
Study of texts representing major classical Roman literary genres (for example, comedy, satire, lyric poetry, history, oratory, or elegy).

LNW 4905 Special Study in Latin. F, S.
Credits: 1 to 4; Prereq: LAT 1122, LAT 1132, LAT 3231 or equivalent.
Readings, conferences, and reports. With change of content may be elected for additional credit.

GRADUATE COURSES

LAT 6840 History of the Latin Language.
Credits: 3

LNW 5905 Special Study in Latin.
Credits: 3

LNW 6902 Special Study in Latin Literature.
Credits: 3

LNW 6905 Individual Work.
Credits: 2 to 4

LNW 6910 Supervised Research.
Credits: 1 to 5††

LNW 6940 Supervised Teaching.
Credits: 1 to 5††

LNW 6971 Master's Research.
Credits: 1 to 15††

CLINICAL AND COMMUNITY DIETETICS
College of Health Related Professions

INSTRUCTIONAL STAFF 1981-82

Emerson, A.P., Program Director; Kauwell, G.; Maryniuk, M.; Mitchell, J.; Stapell, C. See also courses under Health Related Professions (HRP).

††Grading is on S-U basis only.

Dietetics

DIE 2005 Introduction to Dietetics. F, S.
Credits: 1
Introduction to the profession of dietetics. History, ethics, types of employment and job opportunities.

DIE 3173 Dietetics II. S.
Credits: 6; Prereq: DIE 3535.
Second practicum course in dietetics sequence coordinated with didactic modules.

DIE 3535 Dietetics I. F.
Credits: 7
Initial practicum course in dietetics sequence coordinated with didactic modules.

DIE 4174 Dietetics III. SS.
Credits: 6; Prereq: DIE 3173.
Third practicum course in dietetics sequence coordinated with didactic modules.

DIE 4274 Dietetics V. F.
Credits: 5; Prereq: DIE 4174; Coreq: DIE 4355 and DIE 4516.
Fifth practicum course in dietetics sequence coordinated with didactic modules.

DIE 4276 Dietetics VII. S.
Credits: 11; Prereq: DIE 4274, DIE 4355; Coreq: HSC 4905.
Seventh practicum course in dietetics sequence coordinated with didactic modules; for students majoring in clinical dietetics.

DIE 4355 Dietetics IV. F.
Credits: 5; Prereq: DIE 4174; Coreq: DIE 4274 and DIE 4516.
Fourth practicum course in dietetics sequence coordinated with didactic modules.

DIE 4376 Dietetics VI. S.
Credits: 11; Prereq: DIE 4274; DIE 4355; Coreq: HSC 4905.
Sixth practicum course in dietetics sequence coordinated with didactic modules; for students majoring in community dietetics.

DIE 4516 Clinical and Community Dietetics Seminar. F.
Credits: 2; Prereq: DIE 4174; Coreq: DIE 4355 and DIE 4274.
Selected readings and discussions of current developments in the field of clinical or community dietetics. Individual investigations and reports on assigned topics.

CLINICAL PSYCHOLOGY
College of Health Related Professions

INSTRUCTIONAL STAFF 1981-82

Perry, N.W., Jr., Chairman; Adams, J.; Barger, B.; Bauer, R.; Belar, C.D.; Berg, W.K.; Blashfield, R.; Bower, D.; Cohen, E.; Cohen, L.; Cunningham, W.R.; Davis, H., Director; Eastman, B.; Fennell, E.B.; Fischler, I.; Goldman, J.R.; Goldstein, M.K.; Hall, E.; Harrower, M.; Heilman, K.M.; Hornberger, R.H.; Johnson, J.; Johnson, S.B.; Krop, H.; Lang, P.J.; Levy, C.M.; McCaulley, M.H.; McGlynn, D.F.; Mealiea, W., Melamed, B.G.; Meyer, M.E.; Plutsky, M.; Rice, W.J.; Ross, J.; Schlenker, B.; Schumacher, A.S.; Siegel, L.; Speedie, L.; Starr, D.L.; Vuchinich, R.; Webb, W.B.; Wells, A.

Clinical Psychology
GRADUATE COURSES

CLP 6375 Introduction to Clinical Psychology.
Credits: 3

CLP 6407 Psychological Treatment I.
Credits: 3

CLP 6417 Psychological Treatment II.
Credits: 4

CLP 6437 Behavioral Assessment.
Credits: 3

CLP 6441 Intellectual Assessment.
Credits: 3

CLP 6448 Personality Assessment.
Credits: 3

CLP 6449 Life History Research in Psychopathology.
Credits: 3

CLP 6497 Psychological Disturbances of Adults.
Credits: 4

CLP 6526 Introduction to Clinical Research and Design.
Credits: 2

CLP 6905 Individual Work.
Credits: 1 to 4

CLP 6910 Supervised Research.
Credits: 1 to 5††

CLP 6940 Supervised Teaching.
Credits: 1 to 5††

CLP 6943 Practicum in Clinical Psychology.
Credits: 4††, max. of 8

CLP 6947 Advanced Practicum in Clinical Psychology.
Credits: 1 to 4††, max. of 8

CLP 6971 Master's Research.
Credits: 1 to 15††

CLP 7348 Theory and Practice of Psychological Consultation.
Credits: 3

CLP 7404 Special Issues, Methods and Techniques in Psychological Treatment.
Credits: 3, max. 6

CLP 7406 Psychodynamic Theory.
Credits: 3; max. 6

CLP 7408 Gestalt Therapy and Techniques.
Credits: 3; max. 6

CLP 7409 Marital Dysfunction.
Credits: 3

CLP 7427 Neuropsychological Assessment.
Credits: 3

CLP 7438 Selected Methods in Clinical Assessment.
Credits: 3; max. 6

CLP 7468 Psychological Assessment with Groups.
Credits: 3

CLP 7488 Clinical Treatment of Adolescents.
Credits: 3

CLP 7936 Medical Psychology.
Credits: 3

CLP 7938 Forensic Psychology.
Credits: 3

CLP 7942 Practicum in Behavior Therapy.
Credits: 3

CLP 7949 Internship.
Credits: 3

CLP 7980 Doctoral Research.
Credits: 1 to 15††

Community Psychology

CYP 6709 Theory and Research in Community Clinical Psychology.
Credits: 3

CYP 7308 Advanced Community Intervention.
Credits: 3

Developmental Psychology

DEP 6216 Psychological Disturbances of Children.
Credits: 3

DEP 7217 Minimal Brain Dysfunction.
Credits: 3

DEP 7408 Clinical Psychology of Aging.
Credits: 3

COASTAL AND OCEANOGRAPHIC ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1981-82

Wang, H., Chairman; Chiu, T.Y.; Gondeck, A.R.; Harris, D.L.; Mehta, A.J.; Ochi, M.K.; Partheniades, E.; Reddy, D.V.; Shemdin, O.H.. Sheppard, D.M.;

Engineering: Ocean

EOC 5052 Ocean Engineering.
Credits: 3

EGM 5816 Intermediate Fluid Dynamics.
Credits: 3

STA 5855 Stochastic Processes for Coastal and Ocean Engineers.
Credits: 3

EOC 5310 Acoustics in Liquid.
Credits: 3

EOC 5860 Port and Harbor Engineering.
Credits: 3

EOC 6196 Littoral Processes.
Credits: 3

EOC 6415 Hydrodynamics of Coastal and Ocean Structures.
Credits: 3

EOC 6430 Coastal and Offshore Structures I.
Credits: 3

EOC 6431 Coastal and Offshore Structures II.
Credits: 3

EOC 6850 Simulation Techniques.
Credits: 3

EOC 6905 Individual Study in Coastal and Oceanographic Engineering.
Credits: 1 to 4; maximum of 6

EOC 6932 Selected Field and Laboratory Problems.
Credits: 1 to 4

EOC 6934 Advanced Topics in Coastal and Oceanographic Engineering.
Credits: 1 to 6

EOC 6939 Graduate Coastal Engineering Seminar.
Credits: 1††; maximum of 6

EOC 6971 Master's Research.
Credits: 1 to 15††

Oceanography

OCE 4016 Introduction to Coastal and Oceanographic Environment. F, S.
Credits: 3
Introduction to important coastal and oceanographic processes. Geophysical fluid motions; waves; tides; air-sea interaction; pollutant transport; coastal hydraulics and sedimentary processes.

Oceanography: Chemical

OCC 5050 Introduction to Ocean Chemistry for Engineers.
Credits: 3

Oceanography: Physical

OCP 4290 Coastal Processes.
Credits: 3; Prereq: OCE 4016 or consent of instructor.
Coastal wave and water level fluctuations, littoral transport; tidal inlet dynamics; estuarine hydrodynamics and sediment transport; techniques of measurement.

GRADUATE COURSES

OCP 6056 Physical Oceanography.
Credits: 3

OCP 6165 Ocean Waves I: Linear Theory.
Credits: 3

OCP 6167 Ocean Waves 2: Nonlinear Theory.
Credits: 3

OCP 6169 Random Sea Analysis.
Credits: 3

OCP 6295 Estuarial Hydrodynamics and Engineering 1.
Credits: 3

OCP 6296 Estuarial Hydromechanics and Engineering 2.
Credits: 3

OCP 6297 Esturial Hydromechanics and Engineering 3.
Credits: 3

OCP 6555 Air-Sea Interaction.
Credits: 3

COMMUNICATION
College of Journalism and Communications

INSTRUCTIONAL STAFF 1981-82

Dean: R.L. Lowenstein. Graduate Coordinator: R.N. Pierce. Distinguished Service Professor: H.G. Davis, Jr. Professors: G.A. Butler; K.A. Christiansen; J.S. Detweiler; M.N. Edwardson; J.L. Griffith; H.H. Griggs; L.I. Hooper; K.E.M. Kent; R.L. Lowenstein; F.N. Pierce; R.N. Pierce; J.R. Pisani; G.P. Smeyak; J.L. Terhune. Associate Professors: A.J. Jacobs; R.L Kendall; E.G. Weston. Assistant Professors: M.S. Fregly; J. C. Sutherland.

The degree of Master of Arts in Journalism and Communications is offered with a major in communication. Specialization may be in advertising; broadcasting; journalism; public relations; professional programs in advertising, broadcast, newspaper or public relations management; professional programs in broadcast and newspaper reporting; communication research; international communication; and secondary education for journalism.

Prerequisite for admission is an approved bachelor's degree in a communication field. The student who does not hold a degree in a field preparatory to his specialization or who does not have preparation deemed adequate in the social sciences and humanities will be required to take courses beyond the minimal degree requirements as determined by the Graduate Division of the College. For American students, these requirements will include a full span of American history, federal government, state and local government, and introductory economics.

Each student must follow curricular regulations of the College in effect at the time of his or her entrance to the program. He or she also must adhere to a degree plan approved by the student's adviser and the college's graduate committee. The student must complete this plan one month after starting in the program and must obtain approval of any changes desired.

To continue enrollment in the program, a student must maintain a grade average of 3.0 in all work undertaken. See Graduate Catalog for course details and more information.

GRADUATE COURSES

With permission of the instructor and the College, an undergraduate may enroll in graduate-level courses if the student has Senior standing and an Upper Division grade-point average of at least 2.8. Such courses are listed below and are described under "Journalism and Communications" in the graduate school catalog. Students interested in graduate work are referred to these course offerings.

Advertising
GRADUATE COURSES

ADV 6503 Creative Advertising Strategy and Consumer Behavior.
Credits: 3

ADV 6504 Advertising Research Problems.
Credits: 3

ADV 6602 Advertising/Public Relations Management.
Credits: 3

ADV 6945 Advertising Workshop I.
Credits: 3

ADV 6946 Advertising Workshop II.
Credits: 3

Communication
GRADUATE COURSES

COM 6315 Advanced Research Methods.
Credits: 2

COM 6940 Supervised Teaching.
Credits: 1 to 5††, max. of 5.

Film
GRADUATE COURSES

FIL 6101 Advanced Radio, Television and Film Writing.
Credits: 3

Journalism
GRADUATE COURSES

JOU 6190 Seminar in Problems of News Gathering and Presentation.
Credits: 3

JOU 6195 Advanced Reporting Workshop
Credits: 6

JOU 6501 Newspaper Production and Management.
Credits: 3

JOU 6891 Seminar in Journalism Teaching.
Credits: 3

JOU 6892 Seminar in Journalism as Literature.
Credits: 2

Mass Media Communication
GRADUATE COURSES

MMC 6202 Seminar in Legal Problems of Mass Communication.
Credits: 2

MMC 6265 Terminal Project
Credits: 3

MMC 6303 International Communication I.
Credits: 2

MMC 6304 International Communication II.
Credits: 2

††Grading is on S-U basis only.

MMC 6400 Mass Communication Theory.
Credits: 3

MMC 6421 Research Methods in Mass Communication.
Credits: 3

MMC 6560 Seminar in History of Mass Communication.
Credits: 2

MMC 6660 Seminar in Mass Communication and Society.
Credits: 3

MMC 6905 Individual Work
Credits: 1 to 3, max. of 6

MMC 6910 Supervised Research.
Credits: 1 to 5††, max. of 5.

MMC 6920 Communication Proseminar.
Credits: 1††

MMC 6936 Special Topics in Mass Communication.
Credits: 1 to 4; max. of 8.

MMC 6949 Professional Internship
Credits: 5

MMC 6971 Master's Research.
Credits: 1 to 15††

Public Relations
GRADUATE COURSES

PUR 6934 Problems in Public Relations.
Credits: 3

PUR 6945 Public Relations Workshop I.
Credits: 3

PUR 6946 Public Relations Workshop II.
Credits: 3

Radio-Television
GRADUATE COURSES

RTV 6503 Broadcast Program and Production Problems.
Credits: 3

RTV 6601 Radio and Television in Education.
Credits: 3

RTV 6801 Broadcast Station Management.
Credits: 3

RTV 6945 Broadcast News Workshop.
Credits: 6

RTV 6946 Broadcast Production Workshop.
Credits: 6

COMMUNICATIVE DISORDERS
College of Health Related Professions

INSTRUCTIONAL STAFF 1981-1982

Bzoch, K.R., Chairman; Cutler, W.H.; Hammer, L.C.; Kemker, F.J.; LaPointe, L.L.; Scroggie, E. Jr.; Williams, W.N.

Health Science

HSC 6905 Individual Study in Health Related Professions
Credits: 2 to 4; Maximum of 10 credits.

††Grading is on S-U basis only.

COMPUTER AND INFORMATION SCIENCES
Intercollege Department

INSTRUCTIONAL STAFF 1981-82

Elliott, R.W., Chairman; Batory, D.; Bolduc, E.J.; Brownsmith, J.D.; Burgess, J.A.; Carlson, D.A.; Chow, Y.C.; Conlon, M.; Dankel, D.D.; Davis, J.T.; Dujmovic, J.J.; Eldridge, J.E.; Fishman, M.B.; Gondeck, A.R.; Haskins, L.B.; Kundu, S.; Lynch, M.C.; Navathe, S.B.; Oliver, L H.; Pither, A.W.; Ramey, R.A.; Selfridge, R.G.; Smith, G.; Staudhammer, J.; Stewart, R.; Su, S.Y.; Tou, J.T.; Vickers, F.D.; Wilcox, G.A.; Williams, R.E.

General Information

The Intercollege Department of Computer and Information Sciences was created to serve the needs of the entire university. Toward this end several service courses are available as well as several degree programs. Bachelor Degree programs are currently available through the College of Liberal Arts and Sciences, the College of Business Administration, and the College of Engineering.

Programs for CIS Majors in the College of Business Administration.

The student is referred to the College of Business Administration section of the catalog for the degree requirements in CIS under the College of Business Administration.

Programs for CIS Majors in the College of Engineering.

The student is referred to the College of Engineering section of the catalog for the degree requirements in CIS under the College of Engineering.

Program for CIS Majors in the College of Liberal Arts and Sciences.

The minimum requirements for a Bachelor's degree with a major in CIS from the College of Liberal Arts and Sciences are listed in the following paragraphs. In addition, the student must satisfy the general college requirements as described under the College of Liberal Arts and Sciences section of this catalog.

a. The student should complete in the lower division MAC 3311, MAC 3312, MAC 3313, MAS 3114, STA 3023 or 3032, COC 3110, CDA 3101, COP 3530, and either PHY 2048, PHY 2048L and PHY 2049, PHY 2049L or PHY 2053, PHY 2053L, and PHY 2054, PHY 2054L.

b. In the upper division the student should complete the following:

1. COP 3603, COP 4620, STA 4033, CNM 4110, ENC 3352
2. One of CIS 4321, COP 4300, COP 4540
3 One of EEL 3701, EEL 4712, 4713. The student should check with adviser before making choice.
4. 6 hours of CIS electives. The student must check with the CIS adviser before making selections, since some combinations are not permitted.
5. CIS 4905. All students must take at least 3 hours of CIS 4905. All students must discuss and obtain approval prior to registration in CIS 4905 of all programming projects from the faculty member responsible for CIS 4905 in the coming semester. This faculty member will be responsible for the grade.

c. A minimum of 35 semester hours from Computer and Information Sciences is required for graduation.

Computer and Information Sciences Departmental Honors.

To qualify for honors in Computer and Information Sciences a student must take two Computer and Information Sciences courses approved by the advisor over and above the regular degree requirements; he or she must attain an overall GPA of 3.5 in all Computer and Information Sciences coursework; and must obtain a grade of A or B in all Computer and Information Sciences courses taken. In addition, the CIS 4905 (Special Problems in CIS) project must be an Honors Project to be presented in a public seminar. A student must petition and get approval to attempt CIS Honors at least one semester before graduation.

Computational/Numerical Methods

CNM 3100 Numerical Techniques
see *Industrial and Systems Engineering*

CNM 4110 Numerical Analysis—A Computational Approach. F, S.
Credits: 3; Prereq: COC 3110 and MAS 3114.
Numerical integration, nonlinear equations, linear and nonlinear systems of equations, differential equations and interpolation.

Computer & Information Systems

CIS 4300 Information System Design and Development. S.
Credits: 3; Prereq: CIS 4321.
Directed project work in utilization of information resources, particularly database management software. Topics in analysis and design of application systems through all phases of system development.

CIS 4321 Database Management Systems. F, S.
Credits: 3; Prereq: COP 3530.
A discussion of database management systems including system models, evaluation, analysis, and implementation techniques.

CIS 4905 Special Problems in CIS. F, S, SS.
Credits: 1 to 4
Problems in different areas of computer science, operating systems, management systems, and information retrieval. This course requires actual experience in developing and maintaining a system. May be repeated with change of content up to a maximum of 12 credits.

CIS 4930 Special Topics in Computer and Information Sciences. F, S, SS.
Credits: 1 to 4
Topics vary. Particular computer languages such as JCL, PASCAL, SNOBOL, etc., and current topics of interest in area of computer and information sciences.

CIS 4935 Senior Seminar. F, S.
Credits: 1; Prereq: Senior standing in CIS.
Reports and discussions on CIS research, current developments, practice, and publications.

CIS 4949 Co-op Work Experience. F, S, SS.
Credits: 1††
One term industrial employment, including extra work according to a pre-approved outline. Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

Computer Applications

CAP 3800 Management of Research Data. F, S.
Credits: 3; Recommended Prereq: One course in elementary statistics.
Techniques for coding and analysis of research data using SAS (Statistical Analysis System). Requires computer solution of assigned problems by the student.

CAP 4621 Artificial Intelligence and Heuristics. S.
Credits: 3; Prereq: COP 3530.
Objectives of artificial intelligence. Self organizing systems. Learning systems. Game playing systems.

Computer Concepts

COC 3110 Introduction to CIS. F, S, SS.
Credits: 3; Coreq: MAC 3311.
Introduction to computers and algorithms. Programming in a high level language. Topics include loops, arrays, and procedures. Structured programming techniques.

COC 3400 Computers and Modern Society. F.
Credits: 3
Impact of computers on society. Discussion includes specific cases from many areas, but does not include problem solution by the student. This course does not teach how to use the computer but gives an understanding of the implications of computers.

Computer Design/Architecture

CDA 3101 Introduction to Computer Organization. F, S, SS.
Credits: 3; Prereq: MAC 3311; Coreq: COC 3110.
Organization of computing systems. Logical basis of computer structure. Machine representation of instructions and data, flow of control, basic machine instructions. Assembly language programming.

Computer Programming

COP 3110 Introduction to Computer Programming. F, S, SS.
Credits: 2; Prereq: High School Algebra.
An introduction to computer programming using FORTRAN or BASIC. Relatively slow paced. Language development is not extensive. Problems will be solved using Computer Center facilities. Degree of programming skill is not tested. Students may receive credit for only one of COP 3210, COP 3212, COP 4112, COP 3110. CIS majors may not receive credit for this course.

COP 3120 Introduction to COBOL Programming. F, S, SS.
Credits: 3
A course in COBOL programming for non-CIS majors. Structured programming in COBOL is stressed. Topics include information transfers, arithmetic and logical operations, the structuring of data, and arrays. CIS majors may not receive credit for this course.

COP 3121 COBOL for CIS Majors. F, S, SS.
Credits: 3; Prereq: COC 3110.
Techniques for business information systems programming in COBOL utilizing comprehensive facilities of the COBOL language. Business applications and examples of their solutions will be employed throughout. Topics include advanced table handling as well as sequential, random, and indexed file organizations and manipulation techniques in COBOL.

COP 3122 Information Systems Programming 2. S.
Credits: 3; Prereq: COP 3121.
Advanced information systems programming utilizing the extended facilities of the COBOL language. Topics include information and string manipulation, sort/merge techniques, automated report generation, and multi-access terminal communication with the COBOL program in a teleprocessing environment.

COP 3210 Computer Programming Using FORTRAN. F, S, SS.
Credits: 2; Prereq: MAC 1132 or equivalent.
An in depth treatment of computer programming using FORTRAN. Higher level of math and logic background required than for COP 3110. Relatively fast paced. Problems relating to the student's major area will be solved using Computer Center facilities. Degree of programming skill is subjectively tested. Students may receive credit for only one of COP 3210, COP 3212, COP 4112, COP 3110. CIS Majors may not receive credit for this course.

COP 3211 Advanced FORTRAN Programming. F, S, SS.
Credits: 2; Prereq: COP 3210 or COP 3212 or COP 3110 and permission of instructor.
Advanced topics in FORTRAN including logical, double precision and complex arithmetic and tape and disk (direct access) input and output. Creating and using a private library. Linkages to other languages. Students may receive credit for only one of COP 3211 and COP 4112.

COP 3212 Computer Programming for Engineers.
see *Industrial and Systems Engineering.*

COP 3530 Data and Program Structures. F, S, SS.
Credits: 4; Prereq: COC 3110, CDA 3101.
Algorithm development using pseudo languages, basic program structures, program design techniques, storage and manipulation of basic data structures like arrays, stacks, queues, sorting and searching, string processing. Linked linear lists. Trees and multilinked structures.

COP 3603 Software System Development. F, S, SS.
Credits: 3; Prereq: COP 3530
An advanced high-level language programming course. Topics include random access processing, advanced language features, software design and development techniques, large project management.

COP 4112 FORTRAN for CIS Majors. F, S.
Credits: 2; Prereq: COC 3110.
A thorough survey of the features of the programming language FORTRAN including structured FORTRAN. Practical problems in various disciplines will be solved by the students. Students may receive credit for only one of COP 3110, COP 3210, COP 3211, COP 4112.

COP 4150 Introduction to APL. F, S, SS.
Credits: 3
APL is a highly interactive computer language. Though no formal computing or mathematics prerequisite is required, considerable maturity is necessary. Some linear algebra is very desirable.

COP 4300 Discrete Systems Simulation. F, S.
Credits: 2; Prereq: STA 4033.
Simulation methodology, languages and design. Monte Carlo techniques, GPSS (General Purpose Simulation System), applied to the solution of discrete system problems.

COP 4400 Assembler Programming for CIS Majors. F, SS.
Credits: 3; Prereq: CDA 3101.
Study of basic assembly language for large scale computers. Covers the entire operation set including input and output. Macro programming and conditional assembly is also included.

COP 4540 File Structures. F, S, SS.
Credits: 3; Prereq: COP 3530.
Sequential, indexed, direct, and virtual files. Multiple-key file access facilities. Comparative data storage techniques using random access devices. Review of file management systems.

COP 4620 Systems Programming 1. F, S, SS.
Credits: 3; Prereq: COP 3530.
The design and implementation of loaders and assemblers. Introduction to the basic principles of operating systems.

COP 4640 Translators and Translator Writing Systems. F, SS.
Credits: 3; Prereq: COP 3530.
Translation of languages, scanning, parsing techniques. Translator writing systems. The implementation of a compiler.

Computer Resources/Management

CRM 4121 Computer Center Management. S.
Credits: 3; Prereq: Junior or Senior standing.
A study of the administration of a computer center, managing personnel, balancing personnel and hardware, software, evaluation and selection, project management and control, and utilization of outside computer service organizations.

Computer Theory

COT 3001 Applications of Discrete Structures. F.
Credits: 3; Prereq: CDA 3101.
Sets, relations, functions, and concept of cardinality. Propositional logic and applications. Predicate logic. Induction and recursion. Finite state machine, grammar, and languages. Graphs and trees. Elements of groups, semigroups, lattices, and boolean algebra.

COT 4125 Theory of Computing. S.
Credits: 3; Prereq: COP 3530.
Finite and infinite state machines, turing machines, formal languages and their recognition automata. Recursive functions. Decidability and unsolvability, halting problem. Space time tradeoffs.

Engineering: Electrical

EEL 4712C Digital Computer Principles 1.
Credits: 4; see Electrical Engineering.

EEL 4713C Digital Computer Principles 2.
Credits: 4; see Electrical Engineering.

EEL 4744C Microcomputer Hardware and Software Components.
Credits: 4; see Electrical Engineering.

GRADUATE COURSES
Computer & Information Sciences

CIS 5041 Information Retrieval.
Credits: 3

CIS 6120 Data Base Management Systems.
Credits: 3

CIS 6123 Data Base Design and Implementation.
Credits: 3

CIS 6905 Individual Study.
Credits: 1 to 3

CIS 6934 Special Topics in CIS.
Credits: 1 to 3

CIS 6935 Graduate Seminar.
Credits: 1

CIS 6971 Research for Master's Thesis.
Credits: 1 to 15††

Computer Applications

CAP 5722 Computer Graphics
Credits: 3

CAP 6652 Advanced Computer Applications
Credits: 3

Computer Design/Architecture

CDA 6125 Microprogramming
Credits: 3

Computer Programming

COP 5622 Operating Systems
Credits: 3

COP 5630 Software Engineering
Credits: 3

COP 5641 Computer Language Translators
Credits: 3

COP 6505 Survey of Programming Languages
Credits: 3

††Grading is on S-U basis only.

Descriptions

COOPERATIVE EDUCATION PROGRAM

Computer Resources/Management

CRM 6201 Computer System Measurement and Evaluation
Credits: 3

Computer Theory

COT 5305 Analysis of Algorithms
Credits: 3

COOPERATIVE EDUCATION PROGRAM
Academic Affairs

INSTRUCTIONAL STAFF 1981-82

Shiflett, Barry, Assistant Director for Co-Op, Career Resource Center

General Information

The Cooperative Education Program offers students an opportunity to integrate classroom instruction with practical work experience as a part of their academic program.

Educational work assignments are selected for students in career related fields with business, industry, government and other professional employers located in Florida and elsewhere. The Program gives students the opportunity to verify academic and vocational interests, gain valuable experience in chosen career fields prior to graduation and earn income that can be used to defray college expenses.

Qualifications

To qualify for a Co-op work assignment a student must have completed the freshman year with at least a 2.0 GPA. After arrangements have been made for the student to be employed in a career-related job, enrollment in an appropriate "Co-op" Work Experience Course follows.

Transfer Students

Students who were Co-oping at a Community College and who wish to continue to do so while at the university will ordinarily wait until after completing one semester at the UF. Articulation agreements add further flexibility with Community College transfer students, and a "personalized" arrangement can often be made based on individual requirements.

Formats

Co-op students may participate in the following work programs:
ALTERNATING: The student alternates between a full-time academic schedule followed by full-time work for a semester, etc. (Variations are permitted for flexibility.)
PARALLEL: The student, while carrying academic course work, is also employed in an appropriate job.

Course Offerings

With the exception of the two co-op courses listed below, all co-op courses are listed under the academic department with which the work is related. A student can determine if a co-op education program is available in his/her major field of study by checking the course listings under the appropriate academic department. The upper division course number for co-op is 4949. This is preceeded by the letter designation for the academic department concerned.

††Grading is on S-U basis only.

All lower division students qualified for co-op course work register for:

IDS 2949 Cooperative Education Work Experience F, S, SS.
Credits: 1††; Prereq: freshman year & approval by academic advisor of proposed major.
Practical co-op work experience related to intended academic major or career field interest under approved industrial, business, institutional or governmental agency supervisor. May be repeated with changed work program upon departmental approval.

All liberal arts upper division students qualified for co-op course work register for:

IDS 4949 Cooperative Education Work in Liberal Studies F, S, SS.
Credits: 1††: Prereq: Sophomore Year & Dept Desig. Classification
Practical co-op work experience related to intended academic major or career field interest under approved industrial, business, institutional or governmental agency supervisor. May be repeated with changed work program upon departmental approval.

CRIMINAL JUSTICE
College of Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Thomas, C.W., Director; Alexander, M.E.; Frazier, C.E.; Lanza-Kaduce, L.; Shenkman, F.A.; Terry, W.C. Collateral faculty represented by Akers, R.L. (Sociology); Auxter, T.P. (Philosophy); Hollien, H.F. (Linguistics); Radelet, M.L. (Sociology); Richards, P.J. (Sociology); Rothman, H.B. (Speech); Swanson, R.M. (Psychology)

The College of Liberal Arts and Sciences offers an interdisciplinary major in Criminal Justice. The program is organized around a core of specialized courses in criminal justice. The interdisciplinary character of the program flows from closely related courses offered in a variety of other departments, particularly the Departments of Anthropology, History, Philosophy, Political Science, Psychology and Sociology. The curriculum is designed to permit students to construct a highly individualized degree program which will prepare them for further training in law, the behavioral sciences, and leadership positions in the criminal and juvenile justice systems.

The minimum number of semester hours required of those who wish to major in Criminal Justice is 39. No more than 12 semester hours of transfer credits may be applied to minimum major requirements. More specific requirements for all Criminal Justice Majors include the following:

1. 24 s.h. from the following including CCJ 3020, CCJ 4700, 3 s.h. of CCJ 4940, and any two of the following CCJ courses: CCJ 4101, CCJ 4290, and CCJ 4301.
2. A maximum of 15 s.h. of upper-division credits. These credits may be earned in either a single department or a combination of departments. The selection of particular courses must only be made after careful consultation with an academic adviser. Courses taken without the prior approval of an adviser cannot be used to satisfy this degree requirement.

CCJ 4905 may be repeated, but no more than 3 credit hours of CCJ 4905 may be applied toward minimum credit requirements for a major in Criminal Justice. The same rule applies to CCJ 4940. Students must have faculty approval before registering for CCJ 4905 and CCJ 4940.

Qualified majors may also participate in an honors program that is sponsored by the Criminal Justice Program. These students must maintain an overall cumulative grade point average of 3.5. They also must complete either (a) a senior thesis or (b) a project which has been approved by the Honors Program Committee.

Criminology and Criminal Justice

CCJ 3020 Introduction to Criminal Justice. F, S, SS.
Credits: 4
Introductory course designed to provide an overview of the criminal justice system and its processes. Consideration of the interrelationships among criminal law, law enforcement, courts, diversion programs, corrections, probation and parole.

CCJ 4101 Law Enforcement and Social Control. F, S.
Credits: 3; Prereq: CCJ 3020.
Study of the role of the police in the criminal justice system of a democratic society. Focus on the organization of police work, discretion and police role in a socio-legal context.

CCJ 4290 Prosecution and Adjudication. S.
Credits: 3; Prereq: CCJ 3020.
An examination of the interactions among the legal, social and psychological influences on the behavior of criminal courts, prosecutors, defense attorneys and the accused.

CCJ 4301 Process of Correction, Probation & Parole. S.
Credits: 3; Prereq: CCJ 3020.
An examination and discussion of the American Correctional Process as a continuum with emphasis on development and system change.

CCJ 4700 Criminal Justice Research. F, S.
Credits: 4
Application of social science methods to Criminal and Criminal Justice Research. Research design for evaluation of Criminal Justice Programs and test of theories of Criminal Etiology.

CCJ 4905 Individual Work. F, S, SS.
Credits: 1 to 3; Prereq: CCJ and major consent of the instructor.
Qualified students and the instructor concerned will develop a course of study or investigation designed to extend available course work. A formal written report is required. May be repeated with permission of an academic adviser.

CCJ 4934 Contemporary Issues in Criminal Justice. F, S, SS.
Credits: 3; Prereq: CCJ 3020.
A changing-topic seminar which will examine a variety of current issues, techniques and problems in criminal justice. May be repeated with change in topic.

CCJ 4940 Practicum. F, S, SS.††
Credits: 3
Supervised experience in a criminal justice agency.

DAIRY SCIENCE
College of Agriculture

INSTRUCTIONAL STAFF 1981-82

Natzke, R.P., Chairman; Bachman, K.C.; Beede, D.K.; Bray, D.R.; Collier, R.J.; Head, H.H.; Marshall, S.P.; Thatcher, W.W.; Van Horn, H.H.; Wilcox, C.J.; Wing, J.M. This staff cooperates in teaching courses in Animal Sciences - General.

DAS 3211 Dairy Cattle Management. F, SS.
Credits: 2
Management principles necessary for successful dairying with emphasis on large dairy herds.

DAS 3214 Dairy Cattle Evaluation. S.
Credits: 1
Evaluation of dairy cows and sires on the basis of performance traits and visual appraisal. Use of performance records and pedigrees in evaluation of cows and sires, the standards of body conformation for the various dairy breeds, and beginning dairy cattle judging will be stressed.

DAS 4213 Dairy Management Techniques.
Credits: 1 to 4; Prereq: DAS 3211 and permission of instructor. May be repeated with change in contents up to a maximum of 4 credits.
Planning, direction and management techniques employed in large dairy herds.

DAS 4411 Dairy Cattle Nutrition. S.
Credits: 3; Prereq: ASG 3404.
Principles of nutrition and their application to dairy cattle feeding.

DAS 4510 Physiology of Lactation. S.
Credits: 3; Prereq: BCH 3023.
Anatomy and development of the mammary gland and factors affecting milk yield and composition.

DAS 4614 Dairy Technology. F.
Credits: 4
Nature and properties of milk constituents; effects of processing upon milk constituents; defects in dairy foods and their causes; dairy foods processing; and analytical procedures for processing and quality control.

DAS 4905 Problems in Dairy Science. F, S, SS.
Credits: 1 to 3; Prereq: Permission of instructor.
Qualified students may choose an approved problem concerning some phase of Dairy Science.

DAS 4941 Fulltime Practical Work Experience in Dairy Science, F, S, SS.
Credits: 1 to 4; S-U Grade only; Prereq: Prior arrangement with adviser, approval of Department Chairman and Dean.
Practical work must be a new experience and related to the field of study.

(For other Dairy Production related courses, see Animal Science — General.)

GRADUATE COURSES

DAS 6212C Advanced Dairy Cattle Management.
Credits: 2

DAS 6281 Dairy Science Research Techniques.
Credits: 3

DAS 6322 Introduction to Statistical Genetics.
Credits: 2

DAS 6512C Advanced Physiology of Lactation.
Credits: 2

DAS 6531 Endocrinology.
Credits: 4

DAS 6541 Energy Metabolism.
Credits: 3

DAS 6555 Environmental Physiology of Domestic Animals.
Credits: 3

DAS 6617 Advanced Dairy Technology.
Credits: 1 to 4

DAS 6905 Problems in Dairy Science.
Credits: 1 to 4

DAS 6910 Supervised Research.
Credits: 1 to 5††

DAS 6931 Graduate Seminar in Dairy Science.
Credits: 1

DAS 6940 Supervised Teaching.
Credits: 1 to 5††

DAS 6971 Master's Research.
Credits: 1 to 15††

ECONOMICS
College of Business Administration

INSTRUCTIONAL STAFF 1981-82

Adams, J.D.; Arditti, F.D., Chairman; Ballentine, J.G.; Barnea, M.; Berg, S.V.; Blair, R.D.; Bomberger, W.A.; Brown, E.P.; Cheng, L.; Cooper, T.E.; Cosslett, S.R.; Denslow, D.A.; Dunn, L. F.; Fishkind, H.H.; Frazer, W.J.; Goddard, F.O.; Horowitz, A.R.; Kenny, L.W.; Langham, M.R.; Lanzillotti, R.F.; Lockhart, M.; Maddala, G.S.; McClave, J.T.; Milliman, J.W.; Papell, D.H.; Smith, S.K.; Theil, H.; Toda, Y.; Vernon, J.R.; Zabel, E.

An undergraduate major in Economics is available through both the College of Liberal Arts and Sciences and the College of Business Administration. Potential Economics majors should see an Economics advisor prior to entering upper division. Among the areas of concentration within the major are: Asian Studies, Business Economics, General Economics, International Economics, Latin American Economics, Pre Law, Pre Med, Public Service, Quantitative Methods in Economics and Business (including Computer Sciences), Urban Economics, and Secondary School Teaching (Certification in the Social Sciences).

Students majoring in Economics must complete at least 29 semester hours of Economics work, a Calculus sequence (check the general education requirements for your major), and STA 3023. Majors are required to include in their Economics work ECO 4101 and ECO 4205 (normal prerequisites ECO 2013 and ECO 2023), ECO 3411 and twelve hours of Economic courses that require ECO 2013 and ECO 2023 as prerequisites.

Students in the College of Liberal Arts and Sciences must attain a grade of "C" or better in ALL required work.

Departmental Honors in Economics are awarded to Liberal Arts and Science students who have a 3.3 average in all Economics work and have completed a 3 hour honors program. The honors program will involve a research project and paper and enrollment in either a combination of ECO 493S (2 hrs.) and ECO 4905 (1 hr.) or in ECO 4905 for 3 hrs. Students progress will be evaluated by three faculty members.

See the appropriate sections for the College of Liberal Arts and Sciences and the College of Business Administration for further details.

GRADUATE COURSES

For admission to graduate courses, the student must have been admitted to the Graduate School, and normally should have had undergraduate courses in fields pertinent to the graduate course selected; or where necessary, special arrangements may be made with the approval of the department head.

Though no graduate major may be completed without adequate course work on the 6000 or higher level, certain undergraduate courses in economics are available for graduate credit as a part of a candidate's major. These are: Economic and Social History of Russia; ECO 5227 Central Banking and Monetary Policies; ECO 5545 Central Government Finance; ECO 5556 State and Local Finance; ECO 5716 Foreign Exchange and International Financial Institutions; ECS 5425 Financial Institutions and Fiscal Policies of Selected Latin American Countries; ECS 5115 Contemporary Economic Problems in Sub-Sahara Africa; ECO 5424-5425 Econometrics; ECP 5205 Economics of the Labor Market; ECP 5624 Regional Economics; ECP 5614 Urban Economics; ECP 5106 Economics of Human Resource Development; ECP 5606 Special Problems in Urban and Regional Economics.

Economics

ECO 2000 Economic Concepts and Institutions.
Credits: 3
Designed for students wishing a survey course in Economic Problems, and for junior college and public school teachers of social sciences. Basic economic concepts and the institutions of private enterprise systems. Theory, measurement and problems of national income and economic growth. Comparisons of main features of private enterprise and controlled economies.

ECO 2013 Basic Economics 1. F, S, SS.
Credits: 3
The nature of economics, economic concepts and institutions; emphasis on the accounting, analytical, and policy aspects of national income and product, as well as public finance, money and banking, and international trade.

ECO 2023 Basic Economics 2. F, S, SS.
Credits: 3
Theories of production, determination of prices and distribution of income in regulated and unregulated industries. Attention is also given to the problems of industrial relations, monopolies, and to comparative economic systems.

ECO 2620 Economic History of the United States. S.
Credits: 3
Industrial development of America; exploitation of natural resources; history of manufacturing, banking, trade, transportation, etc., the evolution of industrial centers; the factors contributing to the growth of the United States.

ECO 3100 Prices and Markets. F, S, SS.
Credits: 3; Prereq: ECO 2013-2023. Not for economics majors. Student may not receive credit for both ECO 3100 and ECO 4101.
The determination of prices and outputs of firms and industries under various market conditions. Reliance is placed upon both theory and applications.

ECO 3213 Monetary Economics.
Credits: 3; Prereq: ECO 4205 or ECO 3251.
Special attention is given to the integration of monetary and general economic analyses. Post-Keynesian and post-monetarist economics. The formation of expectations, the business cycle, the open economy, and national economic policies directed toward the control of the overall behavior of the economy.

ECO 3251 National Income Determinants and Policy. F, S, SS.
Credits: 3; Prereq: ECO 3100. Not for economics majors. Student may not receive credit for both ECO 3100 and ECO 4205.
National economic goals; the determinants of national income, consumption, investment, employment, money and prices; and the role of monetary and fiscal policy in attaining these goals.

ECO 3411 Economic and Business Statistics. F, S, SS.
Credits: 3; Prereq: STA 3023.
Introduction to properties of estimators, linear regression, analysis of variance, and non-parametric tests. Application of these tools to problems.

ECO 3703 International Economics. F, S.
Credits: 3; Prereq: ECO 3100 or ECO 4101 or permission of instructor.
Theory of international trade, significance of geographic, economic, social and political influences, current problems and tendencies in international trade and payments, tariffs, and other barriers to world trade, and national policies affecting foreign commerce.

ECO 4101 Microeconomic Theory.
Credits: 4; Prereq: ECO 2013-2023 and MAC 3311.
Primarily designed for majors in economics. Nature, scope, and purpose of economic analysis. Examines the theory of consumer behavior, production, costs, firm behavior, and the allocation of resources. Student may receive credit for both ECO 3100 and ECO 4101.

ECO 4205 Macroeconomic Theory.
Credits: 4; Prereq: ECO 4101 or permission of department.
Primarily designed for major in economics. Theoretical determinants of aggregate employment,

††Grading is on S-U basis only.

income, expenditures and the price level. Keynesian and neoclassical models are analyzed. Student may not receive credit for both ECO 3251 and ECO 4205.

ECO 4303 Introduction to the History of Economic Thought.
Credits: 3
Leading ideas of the key contributors to the development of modern economic thought as set forth in their original works, with attention to the historical context and problems from which these ideas have emerged.

ECO 4431 Analysis and Forecasting of General Business Fluctuations. S.
Credits: 2; Prereq: STA 3023.
Mathematical and statistical theory of the relationship of important variables in the business cycle, such as profits, the price level, wages, national income, employment, savings and investments. Application of this theory to business forecasting.

ECO 4504 Public Finance.
Credits: 3; Prereq: ECO 2013-2023.
The study of the role of the government in a market economy, the effects of government expenditures, and who pays the different taxes. Emphasis is placed on current tax and expenditure issues.

ECO 4622 United States Economic Development. S.
Credits: 3; Prereq: ECO 3251 or ECO 4205.
A study of American development from colonial times to the present, focusing on the sources of growth and institutional change. Emphasis on the analytical use of theory and statistics.

ECO 4633 Development of Modern Western Economy.
Credits: 3; Prereq: ECO 3251 or ECO 4205.
An analytical study of the economic development of Western Europe from the commercial revolution to the decline of British dominance in the world economy.

ECO 4634 Development of Modern Western Economy.
Credits: 3; Prereq: ECO 3251 or ECO 4205.
A continuation of ECO 4633. Twentieth century economic history.

ECO 4713 International Economic Relations.
Credits: 3; Prereq: ECO 3251 or ECO 4205 or permission of instructor.
The development of international economic policies; geographic, economic, social and political factors underlying contemporary international problems; economic and political methods employed by the leading commercial nations.

ECO 4905 Individual Work. F, S, SS.
Credits: 1 to 3; Prereq: 10 hours of economics and permission of department.
For advanced undergraduate students who need to supplement regular course work by individual studies under guidance. May be repeated with change of content up to a maximum of 10 credits.

ECO 4934 Special Topics. F, S, SS.
Credits: 1 to 3; Prereq: Permission of department.
Course of variable content providing an opportunity for the study in depth of topics not offered in other courses. May be repeated with change in content up to a maximum of 6 credits.

ECO 4935 Senior Seminar in Economics. S.
Credits: 2; Prereq: Advanced standing and permission of economics advisor. May be repeated for credit with change of content for a maximum of 6 credits.
Seminar in contemporary economic problems and issues. An intensive study of a specific area of public policy including current literature and research methods.

††Grading is on S-U basis only.

GRADUATE COURSES

ECO 5111 Microeconomic Theory.
Credits: 4

ECO 5204 Macroeconomic Theory.
Credits: 4

ECO 5227 Central Banking and Monetary Policy.
Credits: 4; Prereq: ECO 3213 or its equivalent.

ECO 5416 Statistical Methods in Economics.
Credits: 4; Prereq: STA 3023.

ECO 5424 Econometric Models and Methods 1.
Credits: 4

ECO 5545 Central Government Finance.
Credits: 4; Prereq: ECO 2013-2023.

ECO 5556 State and Local Finance.
Credits: 4; Prereq: ECO 2013-2023.

ECO 5566 Government Budgeting and Financial Administration.
Credits: 2; Prereq: Permission of department.

ECO 5716 Foreign Exchange and International Financial Institutions.
Credits: 2; Prereq: Permission of department.

ECO 6116 Microeconomic Theory 1.
Credits: 3

ECO 6117 Microeconomic Theory 2.
Credits: 4; Prereq: ECO 6116.

ECO 6155 Neo-Classical Economics.
Credits: 4

ECO 6206 Macroeconomic Theory.
Credits: 3

ECO 6207 Macroeconomic Theory 2.
Credits: 4; Prereq: ECO 6206.

ECO 6216 Monetary Economics 1.
Credits: 4

ECO 6236 Seminar in Monetary Economics.
Credits: 4

ECO 6257 Stabilization Policy.
Credits: 4

ECO 6266 Monetary Economics 2.
Credits: 4

ECO 6305 The Development of Economic Thought 1.
Credits: 4

ECO 6306 The Development of Economic Thought 2.
Credits: 4

ECO 6315 Present-Day Schools of Economic Thought
Credits: 4

ECO 6405 Mathematical Economics 1.
Credits: 4

ECO 6406 Mathematical Economics 2.
Credits: 4

ECO 6407 Nonstochastic Models.
Credits: 4

ECO 6426 Econometric Methods 1.
Credits: 4

ECO 6427 Econometric Methods 2.
Credits: 4

ECO 6428 Research Seminar in Econometrics.
Credits: 1 to 4

ECO 6433 Macroeconomic Models and the Firm.
Credits: 4

ECO 6435 Problems in Statistics and Business Forecasting.
Credits: 4

ECO 6516 Public Revenue and Distribution.
Credits: 4

ECO 6526 Welfare Economics.
Credits: 4

ECO 6536 Public Expenditures and Collective Decisions.
Credits: 4

ECO 6617 The United States in the World Economy (1783-1960).
Credits: 4

ECO 6626 The American Economy to 1860.
Credits: 4

ECO 6627 The American Economy Since 1860.
Credits: 4

ECO 6706 Theory of International Trade.
Credits: 4

ECO 6717 International Economic Relations.
Credits: 4

ECO 6910 Supervised Research.
Credits: 1 to 5††
Credit not applicable toward degree. May be repeated.

ECO 6940 Supervised Teaching.
Credits: 1 to 5††
Credit not applicable toward degree. May be repeated.

ECO 6971 Master's Research.
Credits: 1 to 15††

ECO 7118 Advanced Microeconomic Theory.
Credits: 4

ECO 7208 Advanced Macroeconomic Theory.
Credits: 4

ECO 7938 Advanced Economic Seminar.
Credits: 1 to 4.

ECO 7980 Doctoral Research.
Credits: 1 to 15††

Economic Problems & Policy

ECP 3000 Economic Issues of the '70s.
Credits: 1††
A series of lectures by distinguished visiting economists addressing important and current economic questions of American Society. May be repeated up to a maximum of 4 credits.

ECP 3141 The Economics of Women.
Credits: 2
An analysis of women's labor force activity, past and present, in various economic and political systems. Relationship of women's labor force activity, past and present in various economic and political systems. Relationship of women's role to the operation of the economic concepts involved in the role of women in the marketplace and in the household and family; women's services as public and private goods.

ECP 3203 Labor Problems. F.
Credits: 3; Prereq: ECO 2023.
Insecurity, wages and income, hours, substandard workers; industrial conflict, unionism in its structural and functional aspects, employee representation, employers' associations; labor legislation, settlement of industrial disputes.

ECP 3302 Environmental Economics and Resource Policy
Credits: 3; Prereq: ECO 2023 or permission of the instructor.
The relations between environmental quality, resource utilization, and economic institutions and policy. An examination of alternative strategies and policies in solving the problems of environmental quality and resource scarcity.

ECP 3423 Public Utility Economics.
Credits: 2; Prereq: ECO 2023.
Public regulation of industries, including electricity, natural gas, transportation, and telecommunications; issues addressed include peak load pricing, entry restrictions in radio and TV, destructive competition, and cross-subsidization.

ECP 3433 Transportation Economics. S.
Credits: 3; Prereq: ECO 2023.
General survey of the significance, characteristics and major problems of inter- and intra-city transportation.

ECP 4103C The Economics of Human Resources.
Credits: 3; Prereq: ECO 3100 or ECO 4101.
Labor supply of men and women; household production; marriages and divorce; compensating wage differentials; fertility; the transmission of human and non-human wealth from generation to generation; the demand for education; the determination of earnings; discrimination; unions.

ECP 4143 Blacks in the American Economy.
Credits: 3
A case study of the Economics of Discrimination; the role played by Blacks in the U.S. economy; with emphasis on contributions and areas of conflict.

ECP 4403 Government Regulation of Business. F, S.
Credits: 3; Prereq: ECO 3100 or ECO 4101 or permission of instructor.
The evolution of economic regulation, chief methods of effectuating governmental regulation; the relationship between government and nonpublic utility monopolies; Federal Trade Commission regulation of competitive practices; a critical appraisal of recent developments in the field of governmental regulation.

ECP 4602 Urban Economics.
Credits: 3; Prereq: ECO 2013-2023 or permission of instructor.
Economic analysis of urbanization and the spatial distribution of economic activities. Analytical tools are developed and applied to urban and regional problems such as: growth and decay, housing, land use, and transportation.

GRADUATE COURSES

ECP 5106 Economics of Human Resource Development.
Credits: 2; Prereq: ECO 3100 or equivalent.

ECP 5205 Economics of the Labor Market.
Credits: 4; Prereq: ECP 3203.

ECP 5606 Special Problems in Urban and Regional Economics.
Credits: 4

ECP 5614 Urban Economics.
Credits: 4; Prereq: ECO 2013-2023 and permission of department.

ECP 5624 Regional Economics.
Credits: 4

ECP 6207 Labor Demand and Market Equilibrium.
Credits: 4

ECP 6225 Labor Markets, Manpower and Public Policy.
Credits: 4

ECP 6405 Industrial Organization and Social Control.
Credits: 4

ECP 6407 Problems in Social Control.
Credits: 4

ECP 6426 Economics of Regulated Industries.
Credits: 4

ECP 6536 Health Care Economics 1.
Credits: 4

ECP 6537 Health Care Economics 2.
Credits: 4

ECP 6615 Urban Economics.
Credits: 4

ECP 6625 Regional Economics.
Credits: 4

ECP 6705 Economics of Business Decisions.
Credits: 3

ECP 6905 Individual Work in Economics.
Credits: 1 to 4; maximum credits: 8.

Economic Systems & Development

ECS 3403 Economic Development of Latin America.
Credits: 3
Relationships between population growth and economic development; role of agriculture in economic development; structure and problems of Latin American agriculture; history and problems of industrialization; rates of industrial growth and types of products; resource mobilization; types of exports and imports; terms of trade.

ECS 4003 Comparative Economic Systems. W.
Credits: 3
The economies of capitalism, socialism, communism, and fascism. The United States, Soviet Russia, England, Nazi Germany, and Fascist Italy are compared on the basis of industrial production, agriculture, exchange, credit and banking, income distribution, the status of labor, and international trade.

ECS 4013 Economic Development. S.
Credits: 3; Prereq: ECO 2013-2023.
Problems and policies of modernization related to economic change and growth in the third world. Empirical and theoretical case studies. Area study and formulation of development projects and programs.

ECS 4203 Economies of East Asia.
Credits: 3; Prereq: ECO 2013-2023 or permission of instructor.
Emphasis on Japan and China. Growth patterns and institutional frameworks compared to those of other countries. Quantitative trends of gross national product and qualitative assessments of industrial organization, labor relations, agricultural technology, and government policies.

ECS 4334 Economic and Social History of Modern Russia and the Soviet Union.
Credits: 3
A survey from Tripoli to the Soviet Union. The development of agriculture, industry, and trade and their institutional manifestations; growth theory and conditions of economic growth.

GRADUATE COURSES

ECS 5005 Comparative Analysis of Economic Systems.
Credits: 3; Prereq: Permission of department.

ECS 5115 Contemporary Economic Problems in Sub-Sahara Africa.
Credits: 2

ECS 5425 Financial Institutions and Fiscal Policies of Selected Latin American Countries.
Credits: 2

ECS 6006 Economic Systems Seminar.
Credits: 4

ECS 6015 Theory of Economic Development.
Credits: 4

ECS 6025 Economic Development Seminar.
Credits: 4

ECS 6405 The Economy of Spanish Latin America.
Credits: 4

ECS 6415 The Economy of Brazil.
Credits: 4

ECS 6426 Financial and Fiscal Institutions of Selected Sub-Saharan Countries.
Credits: 4

Social Sciences — Interdisciplinary

SSI 4601 Masterpieces inthe Social Sciences 1. F.
Credits: 4; Prereq: Senior standing.
For advanced students with background work in the social sciences who have approval of their major adviser and the course chairman. Reading of classics in economics, history, political science, sociology and cultural anthropology.

SSI 4602 Masterpieces in the Social Sciences 2. W.
Credits: 4; Prereq: Senior standing.
The second part of the course SSI 4601-4602.

EDUCATIONAL ADMINISTRATION AND SUPERVISION
College of Education

INSTRUCTIONAL STAFF 1981-82

Wattenbarger, J.L., Chairman; Alexander, S.K.; Clark, P.A.; Cole, T.W.; Hale, J.A.; Kimbrough, R.B.; Longstreth, J.W.; Nickens, J.M.; Nunnery, M.Y.; Sandeen, C.A.

Adult Education

ADE 6260 Organization and Administration of Adult Education
Credits: 3

Education: Administration

EDA 6061 Educational Organization and Administration.
Credits: 3

EDA 6105 Operations Research in Educational Administration.
Credits: 3

EDA 6192 Educational Leadership I.
Credits: 3

EDA 6195 Educational Leadership II.
Credits: 3

EDA 6201 Business Affairs in Education.
Credits: 3

EDA 6203 Educational Budgeting and Accounting Systems.
Credits: 3

EDA 6222 Administration of School Personnel.
Credits: 3

EDA 6225 Labor Relations in Public Education.
Credits: 3

EDA 6232 Public School Law.
Credits: 3

EDA 6242 Public School Finance.
Credits: 3

EDA 6271 Utilization of Computers in Educational Administration.
Credits: 3

EDA 6300 Principles of Community Education Administration.
Credits: 3

EDA 6306 Theories and Practices of Community Education Administration.
Credits: 3; Prereq: EDA 6300.

EDA 6503 The Principalship.
Credits: 3

Descriptions

EDUCATION

EDA 6905 Individual Work.
Credits: 1 to 5

EDA 6931 Special Topics.
Credits: 1 to 5

EDA 6935 Problems in School Administration and Supervision.
Credits: 1 to 15

EDA 6948 Supervised Practice in School Administration.
Credits: 1 to 15††

EDA 6971 Research for Master's Thesis.
Credits: 1 to 15††

EDA 7103 Theories of Educational Administration.
Credits: 3; Prereq: One year of graduate study.

EDA 7205 Educational Planning.
Credits: 3

EDA 7236 The Law and Higher Education.
Credits: 3

EDA 7244 The Financing of Higher Education.
Credits: 3

EDA 7260 Planning Educational Facilities.
Credits: 3

EDA 7550 Higher Education Administration.
Credits: 3

EDA 7565 Coordination of State Systems of Higher Education.
Credits: 3

EDA 7945 Practicum in Supervision and Administration.
Credits: 1 to 15††

EDA 7980 Research for Doctoral Dissertation.
Credits: 1 to 15††

EDA 7990 Research Design in Educational Administration.
Credits: 3; open only to students in the Advanced School; Prereq: EDF 6481.

Education: Exceptional Child—Core Competencies

EEX 6511 Administration in Special Education.
Credits: 3; Prereq: EEX 3010 or 6051 or permission of instructor.

EEX 7535 Seminar in Administration and Supervision of Special Education.
Credits: 3 to 6; Prereq: EDA 6061, EEX 6511.

EEX 7945 Practicum: Special Education Administration.
Credits: 3 to 9; Max.: 12; Prereq: EEX 7535, six credits of special education, six credits of educational administration, and written request to enroll six weeks prior to registration.

EVT 6264 Administration of Vocational Education.
Credits: 3

COUNSELOR EDUCATION DEPARTMENT
College of Education

INSTRUCTIONAL STAFF 1981-82

Wittmer, P.J., Chairperson; Amatea, E.; Avila, D.; Bollet, R. (UCF); Clark, E.B.; Downie, R.D.; Dykes, M.K.; Flesher, C.K.; Jester, R.E.; Joiner, J.; Landsman, T.; Lane, D.; Larson, J.J.; Lee, R.E.; Loesch, L.C.; Lombana, J. (UNF); McDavis, R.J.; McMillin, M.; Meek, P.M.; Morgan, J.I.; Myrick, R.D.; Percy, L.E. (UCF); Pitts, J.H.; Resnick, J.L.; Riker, H.C.; Saxon, J.P.; Schauble, P.G.; Seiler, G.; Sharp, B.L.; Soldwedel, B.J. (UNF); Stripling, R.O.; Tolbert, E.L.; Wolking, W.D.

††Grading is on S-U basis only.

Undergraduate Assistant Instructors

Beistle, M.; Dougan, T.; James, S.H.; Hyman, R.; Ponikvar, C.; Vetter, M.K.; Waters, W.; Woodham, B.D.; Worley, J.

Guidance & Counseling

EGC 3051 The American College Student.
Credits: 3
Overview of the educational, social, psychological and environmental factors influencing the lives of students in American colleges.

EGC 3053 Student Development in a University Setting. F, S.
Credits: 2; (Grading on S-U basis only.)
Course available to selected undergraduate students only. Examines factors affecting student growth and development in the university setting, current problems facing students, and the use of group processes and leadership training in solving problems and facilitating growth. Course may be repeated with a change of content to a maximum of 6 credits.

EGC 3161 Alcohol Use, Abuse, and Student Development.
Credits: 2
General information on effects and problems associated with alcohol use and abuse. Strategies for coping with alcohol use and abuse are provided.

EGC 3324 Career and Life Planning.
Credits: 3
Presentations, discussions, and experiential activities for making effective life plans and adjustments are covered.

EGC 4033 Interpersonal Communication Skills.
Credits: 3
The application of basic principles of a helping relationship in the classroom with emphasis on the affective dimensions of teaching. Attention will be given to using basic guidance and counseling strategies and psychological techniques as an aid to instruction.

EGC 4471 Peer Facilitator Training in Alcohol Education.
Credits: 3; Prereq: EGC 3161.
Provides peer facilitator training for group learning situations. Selection interview required.

GRADUATE COURSES

EGC 6005 Principles of Guidance: The Helping Relationship.
Credits: 3

EGC 6045 Counseling with Children.
Credits: 3

EGC 6054 Problems in Personnel Work.
Credits: 2 to 7

EGC 6055 Student Personnel Services in Higher Education.
Credits: 3

EGC 6057 The College Community and the Student.
Credits: 3

EGC 6225 Personnel Testing.
Credits: 3

EGC 6317 Vocational Development.
Credits: 3

EGC 6405 Modern Counseling and Personnel Work.
Credits: 3

EGC 6416 Counseling Theory.
Credits: 4

EGC 6426 Counseling in Community Settings.
Credits: 3

EGC 6438 Play Therapy and Play Process With Children.
Credits: 3

EGC 6447 Laboratory in Counseling.
Credits: 1

EGC 6461 Drug Abuse: The Counselor's Role.
Credits: 3

EGC 6463 Counseling Ethnic Minorities.
Credits: 3

EGC 6465 Counseling for Mid-Life and Pre-Retirement.
Credits: 3

EGC 6466 Counseling Needs of Older Persons.
Credits: 3

EGC 6467 Counseling Older Persons, Theories and Techniques.
Credits: 3

EGC 6505 Group Procedures in Guidance and Personnel Work.
Credits: 3

EGC 6545 Group Counseling.
Credits: 3

EGC 6606 Organization and Administration of Guidance and Personnel Programs.
Credits: 3

EGC 6726 Sensitivity Exploratory Laboratory.
Credits: 1

EGC 6905 Individual Work.
Credits: 1 to 4; Maximum of 10 credits.

EGC 6910 Supervised Research.
Credits: 1 to 5††

EGC 6933 Seminar in Professional Development.
Credits: 1

EGC 6938 Special Topics.
Credits: 1 to 4; Maximum of 10 credits.

EGC 6940 Supervised Teaching.
Credits: 1 to 5††

EGC 6971 Masters Research.
Credits: 1 to 15††

EGC 7056 Seminar in Higher Education Student Personnel.
Credits: 1 to 2

EGC 7329 Seminar in Career Development.
Credits: 3

EGC 7446 Practicum in Counseling.
Credits: 4; Maximum of 12 credits.

EGC 7485 Seminar in Counseling Research
Credits: 2

EGC 7585 Practicum in Group Counseling.
Credits: 4; Maximum of 8 credits.

EGC 7616 Evaluative Research in Counseling, Guidance, and Personnel Work.
Credits: 4

EGC 7706 Consultation Procedures.
Credits: 3

EGC 7840 Practicum in Student Personnel Work.
Credits: 4; Maximum of 12 credits.

EGC 7852 Practicum in Counseling Older Persons.
Credits: 4

EGC 7890 Internship in Personnel Work.
Credits: 6††; Maximum of 12 credits.

EGC 7937 Seminar in Personnel Work.
Credits: 4

EGC 7980 Doctoral Research.
Credits: 1 to 15††

FOUNDATIONS OF EDUCATION
College of Education

INSTRUCTIONAL STAFF 1981-82

Sherman, R.R., Chairman; Algina, J.J.; Andrews, S.D.; Ashton, P.F.; Avila, D.L.; Bengston, J.K.; Brown, B.B.; Busby, W.A.; Crocker, L.M.; Curran, R.L.; Damico, S.B.; Greenwood, G.E.; Guertin, W.H.; Guinagh, B.J.; Jester, R.E.; Koran, M.L.; Newell, J.M.; Newman, A.J.; Olejnik, S.F.; Primack, R.B.; Renner, R.R.; Soar, R.S.; Wass, H.L.; Webb, R.B.; White, A.O.

EDF 2005 Introduction to Education. F, S, SS.
Credits: 2
A survey of the various phases of education and teaching. Offered only by correspondence.

EDF 3110 Human Growth and Development. F, S, SS.
Credits: 3; Prereq: Permission of departmental representative for lower division students.
A life span survey of human growth and development beginning at conception and ending with death. Students will have the opportunity to apply general principles in appropriate educational settings.

EDF 3122 The Young Child. F, S, SS.
Credits: 3
Study of growth and development during infancy and early childhood. Laboratory includes observation and participation in nursery school and kindergarten.

EDF 3135 The Adolescent. F, S, SS.
Credits: 3; Prereq: Permission of departmental representative for lower division students.
The special role that the adolescent plays in total development. Emphasis is on the psychosocial development of the adolescent in the school.

EDF 3514 History of Education in the United States. F, S, SS.
Credits: 3
The development of American schools and major problems in American education, with emphasis upon the relationships among the schools, intellectual movements, and social institutions.

EDF 3604 Social Foundations of Education. F, S, SS.
Credits: 3
A study of the educative effects of our social structures, the social values and issues involved in appraising these effects, and the resulting social demands upon the schools.

EDF 3935 Special Topics. F, S, SS.
Credits: 1 to 3; Prereq: Consent of department chairman. May be repeated with change of content up to a maximum of 12 credits.

EDF 4114 Dynamics of Human Development. F, S, SS.
Credits: 3; Prereq: EDF 3110 or equivalent.
The dynamics of personality development with implications for classroom practice. Particular attention will be given to the development of self in childhood and adolescence.

EDF 4210 Educational Psychology. F, S, SS.
Credits: 3
An understanding of the applications of psychological principles to the educational process. It treats such topics as individual differences, principles of learning, transfer of training, and the nature of reasoning.

EDF 4430 Measurement and Evaluation in Education. F, S, SS.
Credits: 3
Study is made of the basic principles and methods of measurement and evaluation of pupil learning in schools.

EDF 4542 Philosophy of Education. F, S, SS.
Credits: 3
A critical examination is made of various theories and philosophies of education, their relationships to the democratic principle, and their significance to the evolving system of education in the United States.

EDF 4710 Comparative Education. F, S, SS.
Credits: 3; Prereq: Permission of departmental representative for lower division students.
A survey of educational problems in contemporary foreign countries with emphasis upon their implications for the United States.

EDF 4780 Education and the World Community. F, S, SS.
Credits: 3
The relationship between the school and the student's development of a world-minded disposition, with an examination of curricula implications.

EDF 4905 Individual Work. F, S, SS.
Credits: 1 to 3
For undergraduate students of upper division status, who wish to explore areas of inquiry in psychological, social, or philosophical foundations of education, or research or measurement, under faculty guidance. May be repeated with change of content up to a maximum of 12 credits.

GRADUATE COURSES

EDF 5215 Principles of Learning and Instructional Practice.
Credits: 3

EDF 5431 Measurement and Evaluation in Early Childhood.
Credits: 3

EDF 6111L Laboratory in Human Development 1.
Credits: 3

EDF 6112L Laboratory in Human Development 2.
Credits: 3

EDF 6113 Educational Psychology: Human Development.
Credits: 3

EDF 6119 Psycho-Social-Educational Aspects of Death and Dying.
Credits: 3

EDF 6175 Educational Psychology: Adulthood.
Credits: 3

EDF 6185 Educational Psychology: Aging.
Credits: 3

EDF 6211 Educational Psychology: General.
Credits: 3

EDF 6215 Educational Psychology: Learning Theory.
Credits: 3

EDF 6218 Educational Psychology: Problems.
Credits: 2 to 3

EDF 6355 Educational Psychology: Personality Dynamics.
Credits: 3

EDF 6401 Educational Statistics.
Credits: 3

EDF 6403 Quantitative Foundations of Educational Research.
Credits: 6

EDF 6436 Theory of Measurement.
Credits: 4

EDF 6475 Qualitative Foundations of Educational Research.
Credits: 4

EDF 6481 Research Methods in Education.
Credits: 4

EDF 6487 Assessment of Classroom Behavior.
Credits: 3

EDF 6520 History of Education.
Credits: 3

EDF 6525 Ancient and Medieval Education.
Credits: 2 to 3

EDF 6544 Philosophical Foundations of Education.
Credits: 3

EDF 6606 Socio-Economic Foundations of Education.
Credits: 3

EDF 6630 Educational Sociology.
Credits: 3

EDF 6712 Comparative Education.
Credits: 2 to 3

EDF 6720 Education in Latin America.
Credits: 2 to 3

EDF 6905 Individual Work.
Credits: 1 to 3; Maximum of 12 credits.

EDF 6910 Supervised Research.
Credits: 1 to 5††; Maximum 12

EDF 6933 Seminar on Research on Effective Teaching.
Credits: 3

EDF 6938 Special Topics.
Credits: 1 to 3; Maximum 12.

EDF 6940 Supervised Teaching.
Credits: 1 to 5††; Maximum 12

EDF 6941 Practicum in Educational Research.
Credits: 2 to 9; Maximum 12.

EDF 6943 Practicum in Educational Psychology.
Credits: 3; Maximum 12.

EDF 6971 Master's Research.
Credits: 1 to 15††

EDF 7117 Affective Development and Education.
Credits: 3

EDF 7146 Educational Psychology: Cognition in the Educative Process.
Credits: 3

EDF 7149 Self-Concept Theory and Its Application in Education.
Credits: 3

EDF 7186 Educational Psychology: Advanced Seminar in Aging.
Credits: 3

EDF 7229 Advanced Educational Psychology: Learning.
Credits: 3; Maximum 12.

EDF 7405 Advanced Quantitative Foundations of Educational Research.
Credits: 4; Maximum 8.

EDF 7432 Advanced Psychometric Theory.
Credits: 3

EDF 7491 Evaluation of Educational Products and Systems.
Credits: 3

EDF 7555 Values and Ethics in Education.
Credits: 3

EDF 7573 Contemporary Educational Theories.
Credits: 3

EDF 7575 Theories of Mind.
Credits: 3

EDF 7584 Educational Classics.
Credits: 3

EDF 7608 School and Society.
Credits: 3

††Grading is on S-U basis only.

Descriptions

EDUCATION

EDF 7639 Research in Educational Sociology.
Credits: 3

EDF 7931 Seminar in Educational Research.
Credits: 3; Maximum 6.

EDF 7932 Analysis of Educational Research.
Credits: 3

EDF 7934 Seminar in Educational Foundations.
Credits: 3; Maximum 12.

EDF 7980 Doctoral Research.
Credits: 1 to 15††

SPS 7949 Internship in School Psychology.
Credits: 6

GENERAL TEACHER EDUCATION
College of Education

INSTRUCTIONAL STAFF 1981-82

Myers, R.B., Chairman; Blume, R.A.; Johnson, S.O.; Kinzer, S.M.; Krogh, S.E.; Lamme, L.L.; Morgan, E.; Oberlin, L.C.; Packer, A.B.; Ross, D.D.; Schuncke, G.M.; Shea, J.J.

Art Education

ARE 3312 Art Experiences with Children. F, SS.
Credits: 3
Directed experiences with children. Planning, teaching, and evaluating art experiences.

GRADUATE COURSES

ARE 5313 Teaching Art in Elementary School 1.
Credits: 3

ARE 5315 Teaching Art in Elementary School 2.
Credits: 3

Education: Early Childhood

EEC 3800 Professional Studies in Early Childhood Education. F, S, SS.
Credits: 1 to 11††; maximum of 11 credits.
Includes (a) participation in a continuous professional seminar (b) study of content selected from the substantive areas listed below, and (c) an appropriate field experience. The substantive areas are: art, curriculum, language arts, math, reading, science, social studies, music.

GRADUATE COURSES

EEC 5944 Laboratory in Nursery-Kindergarten Teaching I.
Credits: 3

EEC 5945 Laboratory in Nursery-Kindergarten Teaching II.
Credits: 3

EEC 6051 Early Childhood Education; Background and Concepts.
Credits: 3

EEC 6205 Program Models in Early Childhood Education.
Credits: 3

EEC 6307 Parent Education Programs.
Credits: 3

EEC 6405 Resources for Early Childhood Education.
Credits: 3; maximum of 6 credits.

EEC 6525 Day Care for Young Children.
Credits: 3

††Grading is on S-U basis only.

EEC 6946 Practicum in Early Childhood Education
Credits: 1 to 6; max. of 11 credits.

EEC 6947 Practicum in Parent Education
Credits: 1 to 6; max. of 11 credits.

EEC 7932 Seminar in Early Childhood Education
Credits: 1 to 6; max. 6.

Education: Elementary

EDE 3804 Professional Studies in Elementary Education. F, S, SS.
Credits: 1 to 20††; maximum of 35 credits.
Includes (a) participation in a continuous professional seminar (b) study of content selected from the substantive areas listed below, and (c) an appropriate field experience. The substantive areas are: art, curriculum, language arts, math, reading, science, social studies, music, human growth and development, and social foundations.

EDE 4203 Elementary School Today. F, S, SS.
Credits: 3; Prereq: Admission to Advanced Professional Sequence in Education.
Purposes, organization, and curriculum of the elementary school. Concurrent with EDS 4203 for students in special fields desiring certification K-12.

EDE 4905 Individual Study. F, S, SS.
Credits: 1 to 3
Open only to selected undergraduate students who wish to study an individual problem in depth which relates to their preparation as teachers. The project must be approved and supervised by a departmental faculty member.

EDE 4943 Student Teaching in Elementary School. F, S, SS.
Credits: 2 to 16††; may be repeated to a maximum of 16; Prereq: See "Admission to Student Teaching in Any Teacher Education Program" and approval of the Elementary staff. Student teaching in selected classrooms of public schools; special seminars and continuous evaluation of teaching experiences.

EDG 4411 Developing School Discipline Skills.
Credits: 1 to 3
A survey of the skills of classroom discipline necessary for teachers in today's elementary, middle and high schools. Emphasis is upon a knowledge of individual and large group management skills. A variety of methods are included.

GRADUATE COURSES

EDE 6225 Practices in Childhood Education.
Credits: 3

EDE 6525 Alternative Models for Classroom Discipline.
Credits: 3

EDE 6541 Individualization of Instruction.
Credits: 3

EDE 6905 Individual Work.
Credits: 1 to 5; max. of 10 credits.

EDE 6910 Supervised Research.
Credits: 1 to 5††

EDE 6932 Special Topics.
Credits: 1 to 5; max. of 10 credits.

EDE 6940 Supervised Teaching.
Credits: 1 to 5††

EDE 6948 Practicum in Elementary Education.
Credits: 3 to 6; max. of 11 credits.

EDE 7247 Problems in Childhood Education I.
Credits: 3

EDE 7248 Problems in Childhood Education II.
Credits: 3

EDE 7415 Evaluation in the Elementary School.
Credits: 3

EDE 7935 Seminar in Elementary Education
Credits: 3 to 6; max of 6 credits.

Education General

GRADUATE COURSES

EDG 6427 Parent Education for Educators
Credits: 3

EDG 6712 The Education of Culturally Disadvantaged Children and Youth
Credits: 3

EDG 6941 Field Laboratory for Faculty Study of Special Problems.
Credits: 2 to 6

EDG 6971 Master's Research.
Credits: 1 to 15††

EDG 7795 Seminar in the Education of Disadvantaged Children and Youth.
Credits: 3

EDG 7980 Doctoral Research.
Credits: 1 to 15††

Education: Middle School

GRADUATE COURSES

EDM 6005 The Emergent Middle School.
Credits: 3

EDM 6945 Practicum in Middle School Education.
Credits: 3; maximum of 8 credits.

EDM 7935 Seminar in Middle School Education.
Credits: 1 to 3

Education: Secondary

GRADUATE COURSES

ESE 6215 The Secondary School Curriculum.
Credits: 3

ESE 6235 Curriculum Development Laboratory.
Credits: 1 to 4; maximum of 10 credits.

ESE 6385 Supervision of Pre-Service Teachers.
Credits: 1 to 3; maximum of 3 credits.

ESE 6920 Secondary Education Lecture Series.
Credits: 1; maximum of 2 credits.

ESE 7922 Secondary Education Colloquium.
Credits: 1††; maximum of 4 credits.

ESE 7935 Seminar in Secondary Education.
Credits: 1 to 4; maximum of 10 credits.

Education: Supervision

EDS 6351 Supervision of Pre-Service Teachers.
Credits: 1 to 3; maximum of 3 credits.

The following specialized subject area courses may be necessary to fulfill requirements in General Teacher Education program areas.

Language Arts and English Education

LAE 6301 Early Childhood Language Arts and Reading.
Credits: 3

LAE 6319 Language Arts in the Elementary School.
Credits: 3

LAE 6714 Children's Literature in the Childhood Curriculum.
Credits: 3

Mathematics Education

MAE 5318 Teaching Modern Math in Elementary School.
Credits: 3

MAE 6115 Mathematics in the Elementary School.
Credits: 3

Reading Education

RED 5310 Reading in the Primary Grades.
Credits: 3

RED 5355 Reading in the Intermediate Grades.
Credits: 3

Science Education

SCE 5115 Teaching Science in Elementary School.
Credits: 3

SCE 6117 Science Education in the Elementary School
Credits: 3

Social Studies Education.

SSE 6117 Social Studies Education—Elementary School.
Credits: 3

INSTRUCTIONAL LEADERSHIP AND SUPPORT
College of Education

INSTRUCTIONAL STAFF 1981-82

Hipple, T.W., Chairman; Crews, R.; Dickerson, L.; Drummond, W.H.; Fillmer, H.T.; George, P.S.; Hedges, W.D.; Hensel, J.W.; Lawrence, G.D.; Lewis, A.J.; Morgan, M.K.; Mullally, L.J.; Powell, W.R.; Smith, A.B.; Turner, E.C.; Williams, E.L.

Adult Education
GRADUATE COURSES

ADE 6385 Teaching in Adult Education.
Credits: 3

ADE 6671 Adult Education: Progress and Prospect.
Credits: 3

ADE 7672 Contemporary Issues in Adult Education.
Credits: 3

Education: General

EDG 4905 Individual Study. F, S, SS.
Credits: 1 to 6
Open only to selected undergraduates who wish to study on an individual problem in depth which relates to their preparation as teachers. The project must be a part of the student's planned program and must be approved by and carried on under the guidance of a faculty member.

GRADUATE COURSES

EDG 6046 Contemporary Issues in Career Education.
Credits: 3

EDG 6250 The School Curriculum.
Credits: 3

EDG 6285 Evaluation in the School Program.
Credits: 3

EDG 6691 Problems in Curriculum and Instruction.
Credits: 2 to 10; maximum of 10 credits.

EDG 6905 Individual Work.
Credits: 1 to 4; maximum of 10 credits.

EDG 6910 Supervised Research.
Credits: 1 to 5††

EDG 6931 Special Topics.
Credits: 1 to 4; maximum of 10 credits.

EDG 6940 Supervised Teaching.
Credits: 1 to 5††

EDG 6941 Field Laboratory for Faculty Study of Special Problems.
Credits: 2 to 6; maximum of 9 credits.

EDG 6971 Master's Research.
Credits: 1 to 15††

EDG 7222 Curriculum: Theory and Research.
Credits: 3

EDG 7235 Programs of Teacher Education.
Credits: 3

EDG 7361 Instruction: Theory and Research.
Credits: 3

EDG 7391 Seminar on Instructional Leadership.
Credits: 3

EDG 7665 Bases of Curriculum and Instruction Theory I.
Credits: 3

EDG 7666 Bases of Curriculum and Instruction Theory II.
Credits: 3

EDG 7699 Seminar: Curriculum and Instruction Leadership in Postsecondary Education.
Credits: 1 to 2; maximum of 8 credits.

EDG 7941 Field Experiences in Curriculum and Instruction.
Credits: 1 to 4; maximum of 10 credits.

EDG 7947 Internship in Teacher Education I.
Credits: 3

EDG 7948 Internship in Teacher Education II.
Credits: 3

EDG 7980 Doctoral Research.
Credits: 1 to 15††

Education: Higher
GRADUATE COURSES

EDH 6053 The Community Junior College in America.
Credits: 3

EDH 6066 American Higher Education.
Credits: 3

EDH 6067 Seminar: International Higher Education.
Credits: 2 to 3

EDH 6305 College and University Teaching.
Credits: 3

EDH 6946 Practicum in College Teaching 2.
Credits: 3

EDH 6947 Practicum in College Teaching 1.
Credits: 3

EDH 7937 Seminar: Curriculum in Higher Education.
Credits: 3

Education: Supervision
GRADUATE COURSE

EDS 6140 Clinical Supervision
Credits: 3

Education: Technology and Media

Education Media and Instructional Design

EME 4102 Design and Development of Educational Media. F, S, SS.
Credits: 4
An introduction to the instructional development process for educators at all levels. Emphasizes the effective use of media and results in the design of a complete instructional unit. Provides materials production and equipment labs.

EME 4201 Production and Utilization of Educational Media. F, S.
Credits: 4
Develop skills for producing and utilizing illustrations, lettered captions, flat mounted and laminated pictures, overhead transparencies, 2" x 2" photographic slides, and and audio tape recordings.

GRADUATE COURSES

EME 6052 Professional Literature in Educational Communications.
Credits: 4

EME 6205 Photographic and Graphic Production Techniques.
Credits: 4

EME 6325 Programmed Instructional Material.
Credits: 3

EME 6405 Computer Applications in Education.
Credits: 4

EME 6505 Educational Television Design and Production.
Credits: 4

EME 6606 Instructional Development.
Credits: 4

EME 6716 Organization and Administration of Educational Media Centers.
Credits: 4

EME 6805 Bibliographic Control of Print and Nonprint Materials.
Credits: 4

EME 6945 Practicum in Educational Media and Instructional Design.
Credits: 3 to 8

EME 7938 Seminar in Educational Media and Instructional Design.
Credits: 3

Education: Vocational/Technical

EVT 3065 Principles of Vocational Education. F, S, SS.
Credits: 3
Theories and principles of vocational education stressing the development, social and economic values, purposes, and scope of different programs of vocational education in our total educational program. A basic course for those preparing to teach vocational subjects.

EVT 3365 Methods in Vocational Education. SS.
Credits: 3
rGeneral methods of teaching vocational courses.

GRADUATE COURSES

EVT 6167 Program Development in Health Occupations and Adult Education.
Credits: 4

EVT 6170 Technical Education in Post High School Programs.
Credits: 4

††Grading is on S-U basis only.

Descriptions

EDUCATION

EVT 6264 Administration of Vocational Education.
Credits: 3

EVT 6265 Supervision of Vocational and Adult Education.
Credits: 3

EVT 6315 Special Methods in Technical and Health Occupations Education.
Credits: 3

EVT 6381 Teaching Technical Education.
Credits: 3

EVT 6905 Individual Work in Vocational, Technical and Adult Education.
Credits: 1 to 4; maximum of 12 credits.

EVT 6910 Supervised Research.
Credits: 1 to 5††

EVT 6933 Special Topics.
Credits: 1 to 4; maximum of 12 credits.

EVT 6940 Supervised Teaching.
Credits: 1 to 5††

EVT 6949 Cooperative Education
Credits: 3

EVT 7661 Contemporary Issues in Technical Education.
Credits: 3

EVT 7930 Seminar in Vocational and Technical Education.
Credits: 3

Reading Education

RED 4147 Techniques of Teaching Reading. F, S, SS.
Credits: 3
Basic principles, techniques and materials for a developmental reading program. Emphasis is placed on methods and techniques which provide for differentiated instruction.

GRADUATE COURSES

RED 5310 Reading in the Primary Grades.
Credits: 3

RED 5337 Reading in the Secondary School.
Credits: 3

RED 5355 Reading in the Intermediate Grades.
Credits: 3

RED 6247 Organization and Supervision of School Reading Programs.
Credits: 3

RED 6447 Selection, Production and Technology of Reading Materials.
Credits: 5

RED 6548 Corrective Reading with Practicum.
Credits: 6

RED 6646 Problems in Reading.
Credits: 3

RED 6656 Trends in the Teaching of Reading.
Credits: 3

RED 6667 Issues in High School and Adult Reading.
Credits: 3

RED 7747 Analysis of Theory and Research in Reading.
Credits: 3

RED 7818 Clinical Diagnosis in Reading.
Credits: 4

RED 7819 Practicum in Clinical Diagnosis in Reading.
Credits: 4

††Grading is on S-U basis only.

RED 7938 Seminar in Reading.
Credits: 2; max. of 16.

RED 7947 Internship in Reading.
Credits: 6

SPECIAL EDUCATION
College of Education

INSTRUCTIONAL STAFF 1981-82

Morsink, C.V., Chairperson; Algozzine, R.F.; Dykes, M.K.; Forgnone, C.; Mercer, C.D.; Nutter, R.E.; Reichard, C.L.; Reid, W.R.; Schmid, R.E.; Schwartz, S.E.; Wolking, W.D.

Education: Emotional Disorders

EED 4011 Educational Aspects of Behavioral Problems in Children and Youth. F, S.
Credits: 3
An analysis of the prevailing classification systems, etiologies, characteristics and identification procedures relating to behavioral disorders in children and youth. Consideration is given to the emerging trends in the education of children and youth with behavioral problems. H grading.

GRADUATE COURSES

EED 6221 Educational Aspects of Behavioral Problems in Children and Youth.
Credits: 1 to 3

EED 6225 Educational Theories and Practices for Children with Behavioral Problems.
Credits: 1 to 3

EED 6241 Educational Programming for Children with Behavioral Problems.
Credits: 3

EED 6943 Practicum in Special Education: Emotional Disturbance.
Credits: 3 to 12; max. 12

EED 7930 Seminar: Program Development for Children with Behavioral Disorders.
Credits: 3

EED 7936 Seminar: Education of the Emotionally Disturbed Child.
Credits: 3

Education: Exceptional Child—Core Competencies

EEX 3010 Principles and Practices for Teaching Exceptional Children. F, S, SS.
Credits: 3
Incidence, causes, diagnosis, agencies for referral and recommended teaching procedures for the types of exceptional children found in public schools are considered.

EEX 3040 The Exceptional Child in the Mainstream of Education. SS.
Credits: 2
Characteristics of, identification of, and teaching practices for exceptional children who are in the mainstream of education. Designed for general education majors, both elementary and secondary.

EEX 3220 Evaluation of Special Education Students. F, S.
Credits: 3
Study of measures and procedures used in evaluating students in special education.

EEX 3601 Management of Special Education Students. F, SS.
Credits: 3; Prereq: EEX 3010; Coreq: EMR 3011
Study of behavioral management procedures in special education.

EEX 4861 Student Teaching-Special Education. F, S.
Credits: 11 to 22; See "Admission to Student Teaching in Any Teacher Education Program," and approval of Special Education Staff.
Student teaching in selected classrooms and other situations for the education of the mentally retarded. Seminars and continuous evaluation of teaching experiences. No other courses may be taken during the student teaching quarter.

EEX 4905 Individual Study. F, S, SS.
Credits: 1 to 6
Open only to selected undergraduate students who wish to study an individual problem in depth which relates to their preparation as special education teachers. The project must be approved and supervised by a departmental faculty member.

GRADUATE COURSES

EEX 6045 The Exceptional Child in the Mainstream of Education.
Credits: 3

EEX 6051 Teaching Exceptional Children.
Credits: 3

EEX 6059 The Handiapped Student at the Secondary Level.
Credits: 3

EEX 6065 Educational Programming for the Handicapped Student at the Secondary Level
Credits: 3

EEX 6511 Administration in Special Education.
Credits: 3

EEX 6521 Organization and Program Planning in Special Education.
Credits: 3

EEX 6863 Supervised Practice in Special Education.
Credits: 12

EEX 6883 Clinical Teaching: Basic Academic Skills.
Credits: 3

EEX 6905 Individual Work.
Credits: 1 to 3; max. 12.

EEX 6910 Supervised Research
Credits: 1 to 5††

EEX 6936 Special Topics.
Credits: 1 to 3; max. 12

EEX 6940 Supervised Teaching.
Credits: 1 to 5††

EEX 7535 Seminar in Administration and Supervision of Special Education.
Credits: 3 to 6

EEX 7865 Internship: Special Education.
Credits: 1 to 12

EEX 7930 Seminar in Special Education.
Credits: 3; max. 12.

EEX 7934 Seminar: Trends in Special Education.
Credits: 3

EEX 7980 Doctoral Research.
Credits: 1 to 15††

Education: Exceptional Child—Gifted
GRADUATE COURSES

EGI 6051 Education of the Gifted Child.
Credits: 3

EGI 6245 Program Development for the Gifted.
Credits: 3

Education: Specific Learning Disabilities
GRADUATE COURSES

ELD 6111 Direct Assessment of Handicapped Learners.
Credits: 3

ELD 6112 Foundations in the Field of Specific Learning Disabilities.
Credits: 3

ELD 6211 Foundation of Clinical Teaching Behavioral Analysis.
Credits: 3

ELD 6213 Behavior Analysis Applied to Developmental Deficits.
Credits: 3

ELD 6241 Program Designs for Children with Specific Learning Disabilities.
Credits: 3

ELD 6936 Seminar: Current Literature in Specific Learning Disabilities.
Credits: 1; max. 6.

ELD 6937 Seminar: Early Identification and Remediation of Specific Learning Disabilities.
Credits: 3

ELD 6944 Practicum in Special Education: Specific Learning Disabilities.
Credits: 1 to 12

ELD 6947 Laboratory: Evaluation in Special Education.
Credits: 1 to 4; max. 4.

ELD 7938 Seminar: Advanced Topics in Learning Disorders.
Credits: 3 to 4; max. 9

Education: Mental Retardation

EMR 3011 The Mentally Retarded Child. F, S, SS.
Credits: 3
Educational, psychological, sociological, and medical aspects of children and adolescents with varying degrees of retardation.

EMR 3800L Practicum in Mental Retardation. F, S, SS.
Credits: 3; must be repeated to maximum of 6 credits. Coreq: EMR 4202, 4214
Open only to majors in Special Education. Students are assigned to work with mentally retarded students in classrooms, agencies, or institutions. Students are supervised and attend seminars relating to community and school services for mentally retarded persons.

EMR 4202 Curriculum, Methods, and Materials for Teaching Retarded Students. F.
Credits: 3; Coreq: EMR 3800L
Consideration is given to development of curriculum for EMR students, early through high school. Basic principles, techniques and materials are discussed which relate to effective teaching of EMR students.

EMR 4214 Curriculum for the Vocational Mentally Retarded.
Credits: 3; Coreq: EMR 3800L
The development of curriculum and methodological considerations for the vocational educable mentally retarded.

EMR 4330 Methods and Materials for the Severely Retarded. S, SS.
Credits: 3
Methods and materials for severely retarded children, youth and adults.

GRADUATE COURSES

EMR 6361 Education of the Mentally Retarded.
Credits: 3

EMR 6801 Practicum in Special Education: Mental Retardation.
Credits: 3 to 9; max. 9.

EMR 7936 Seminar: Mental Retardation.
Credits: 3

Education: Physical & Multiple Handicapped

EPH 4033 Issues in Early Education of Children with Multiple Handicaps. F.
Credits: 3
Educational procedures, programming strategies, and curriculum development required for developmentally young children and youth with physical impairment including visual, auditory, medical, and behavioral problems.

GRADUATE COURSES

EPH 6185 Laboratory in Special Education Assessments of Severely Handicapped Children.
Credits: 1 to 3

EPH 6305 Educational Management of Physically Impaired/Multiple Handicapped.
Credits: 1 to 3

EPH 6395 Physiological Aspects of Physical/Multiple Handicaps.
Credits: 1 to 3

EPH 6411 Education of Severely Handicapped Children.
Credits: 1 to 3

EPH 6942 Practicum in Special Education: Physically Impaired/Multiple Handicapped.
Credits: 3 to 9; max. 9.

EPH 7936 Seminar: Education of the Severely Physically Impaired/Multiple Handicapped Child in residential institutions.
Credits: 1 to 3

EPH 7937 Seminar: Education of Physically Impaired/Multiple Handicapped Child in Public Schools.
Credits: 1 to 3

SUBJECT SPECIALIZATION
TEACHER EDUCATION
College of Education

INSTRUCTIONAL STAFF 1981-82

Todd, E.A., Chairman; Bolduc, E.J.; Bernard, D.H.; Carr, G.D.; Casteel, J.D.; Crews, R.; Ferguson, R.C.; Flannery, M.E.; Gabianelli, V.; Gregory, J.W.; Hale, M.; Hallman, C.L.; Henderson, C.A.; Henderson, L.; Hipple, T.W.; Kantowski, E.L.; Koran, J.J.; McGuire, V.; Munyer, E.; Newcomb, A.P.; Oberlin, L.; Oyenarte, M.; Rowe, M.B.; Timmerman, M.E.; Wright, R.G.

Art Education

ARE 3312 Art Experiences with Children. SS.
Credits: 3
Directed experiences with children. Planning, teaching, and evaluating art experiences.

ARE 4242 Professional Studies in Art Education 1. F, S.
Credits: 3
Basic introduction to content in the field of Art Education. Requirements include appropriate field experiences, media workshops and participation in a continuing professional seminar. These studies cover the areas of: A. Foundations of Art Education, and B. Art Education Curriculum.

ARE 4243 Professional Studies in Art Education 2. S, SS.
Credits: 3
Study of content in the field of Art Education. Requirements include appropriate field experience, completion of specified competencies, and participation on a continuing professional seminar. These studies cover the areas of: A. Foundations of Art Education and B. Art Education Curriculum.

ARE 4244 Professional Studies in Art Education 3. F, S.
Credits: 4
Study of content in the field of Art Education. Requirements include appropriate field experience, completion of specified competencies, and participation in a continuing professional seminar. These studies cover the areas of: A. Foundations of Art Education and B. Art Education Curriculum.

ART 3100C Crafts. F, S, SS.
Credits: 3
Exploration in craft media such as leather clay, reed, plastic, wood, and native materials. Attention directed toward creative design and function as well as craftsmanship. This course may be repeated once for credit.

EIA 3280C Woodworking. F, S, SS.
Credits: 3
Creative design, construction planning and execution, application of common tool techniques, wood finishing and related information. This course may be repeated once for credit.

EIA 3291C Metalcraft. SS.
Credits: 3
Creative experiences in metalcraft, tooling, etching, painting, tapping, engraving, enamel and silver jewelry. Emphasis upon techniques suitable for public school and therapy purposes. This course may be repeated once for credit.

GRADUATE COURSES

ARE 5313 Teaching Art in Elementary School 1.
Credits: 3

ARE 5315 Teaching Art in Elementary School 2.
Credits: 3

ARE 6047 Foundations of Art Education.
Credits: 3

ARE 6141 Aesthetic Experience.
Credits: 3

ARE 6148 Curriculum in Art Education.
Credits: 3

ARE 6388 The Teaching of Art in Higher Education.
Credits: 3

ARE 6648 Art Education and Related Disciplines.
Credits: 3

Business Teacher Education
GRADUATE COURSES

BTE 6371 Methods and Materials for Block-Time Instruction in Office Education.
Credits: 3

BTE 6373 Materials and Methods of Teaching General Business.
Credits: 3

BTE 6378 Teaching Bookkeeping and Consumer Business Subjects.
Credits: 3

BTE 6379 Teaching Secretarial Studies.
Credits: 3

BTE 6671 Problems in Business Education.
Credits: 3

BTE 6935 Research Seminar in Business Education.
Credits: 3

Descriptions

EDUCATION

BTE 6948 Seminar and Work Experience in Business Education.
Credits: 2 to 4

Economic Education

ECO 4070 Economic/Consumer Education. F.
Credits: 3
Principles of economic/consumer education with methodology and materials for teaching these principles. This course will focus on economic analysis and the application of contemporary economics in the curriculum.

GRADUATE COURSES

ECO 6075 Economics/Consumer Education
Credits: 3

Education: Exceptional Child-Care Competencies

EEX 4141 Methods, Materials and Law. F, S.
Credits: 1; Prereq: EDF 3110, ESE 4011, EDE 4203.
Presents methods for working as a speech therapist in public schools.

Education: General
GRADUATE COURSES

EDG 6910 Supervised Research.
Credits: 1 to 5††

EDG 6971 Master's Research.
Credits: 1 to 15††

EDG 7980 Doctoral Research.
Credits: 1 to 15††

English Education and Language Arts

LAE 4335 Methods and Materials for Language Arts. F, SS.
Credits: 3; Prereq: EDF 3135 or 4210, ESE 4210 taken concurrently.
Presents methods of teaching language arts in secondary schools.

GRADUATE COURSES

LAE 6237 Teaching Adolescent Literature in the Secondary School.
Credits: 3

LAE 6265 Teaching Composition Skills.
Credits: 3

LAE 6301 Early Childhood Language Arts and Reading.
Credits: 3

LAE 6319 Language Arts in the Elementary School.
Credits: 3

LAE 6326 Teaching Literature in the Middle Schools.
Credits: 3

LAE 6365 Language Arts: Language and Composition.
Credits: 3

LAE 6366 Language Arts: Literature.
Credits: 3

LAE 6407 Early Children's Literature.
Credits: 3

LAE 6714 Children's Literature in the Childhood Curriculum.
Credits: 3

LAE 6945 Practicum in Secondary School English.
Credits: 3

††Grading is on S-U basis only.

LAE 7936 Seminar in English Language Arts.
Credits: 3

Foreign Language Education

FLE 4333 Methods and Materials for Foreign Language. F.
Credits: 3; Prereq: EDF 3135 or 4210; ESE 4210 taken concurrently.
Presents methods and materials of foreign language instruction, with emphasis on the newer techniques and materials.

GRADUATE COURSES

FLE 6165 Bilingual Bicultural Education
Credits: 3

FLE 6337 Problems of Foreign Language Instruction in Secondary Schools.
Credits: 3

FLE 6946 Practicum in Teaching Secondary School Foreign Language.
Credits: 3

FLE 7148 Problems and Readings in Bilingual Biculture Education
Credits: 2

Mathematics Education

MAE 4330 Methods and Materials for Mathematics. F, SS.
Credits: 3; Prereq: EDF 3135 or EDF 4210; ESE 4210 taken concurrently.
Presents methods of teaching mathematics in secondary schools.

MAE 4350 Methods in Teaching Mathematics. F, S, SS.
Credits: 3
Methods and materials for teaching the basic skills and concepts of arithmetic, informal geometry, measurement and problem solving. Not available to undergraduate elementary and early childhood majors.

GRADUATE COURSES

MAE 5318 Teaching Modern Math in Elementary School.
Credits: 3

MAE 6115 Mathematics in the Elementary School.
Credits: 3

MAE 6138 Mathematics in the Secondary School.
Credits: 3

MAE 6345 Teacher Verbal Behavior in the Mathematics Classroom
Credits: 3

MAE 6512 Laboratory in Diagnosing Mathematics.
Credits: 3 to 6; maximum of 6.

MAE 6615 Individualizing Instruction in Elementary Mathematics.
Credits: 3

MAE 6636C Laboratory Approach to Mathematics.
Credits: 1 to 4

MAE 6947 Practicum in Teaching Secondary School Mathematics.
Credits: 3

MAE 7899 Mathematics Education Seminar.
Credits: 3

Music Education
GRADUATE COURSES

MUE 6080 Foundations of Music Education.
Credits: 3

MUE 6146 Band Music in the Public Schools.
Credits: 3

MUE 6147 Orchestra Music in the Public Schools.
Credits: 3

MUE 6406 Music in the Elementary School.
Credits: 3

MUE 6416 Vocal Music in the Secondary School.
Credits: 3

MUE 7938 Music Education Seminar.
Credits: 3

Science Education

SCE 4330 Methods and Materials for Science. S, SS.
Credits: 3; Prereq: EDF 3135 or 4210; ESE 4210 taken concurrently.
Presents methods of teaching science in secondary schools.

GRADUATE COURSES

SCE 5115 Teaching Science in Elementary School.
Credits: 3

SCE 6117 Science Education in the Elementary School.
Credits: 3

SCE 6140 The Teaching of Special Science Programs.
Credits: 1 to 4; maximum of 6 credits.

SCE 6237 Science in the Secondary School.
Credits: 3

SCE 6736 Evaluating Science Curricula in Secondary Schools.
Credits: 3

SCE 6947 Practicum in Secondary Science Curriculum.
Credits: 3

SCE 7238 Learning and Instruction in Secondary School Science.
Credits: 3

SCE 7933 Science Education Seminar.
Credits: 3

SCE 7949 Practicum in Learning and Instruction in Secondary School Science.
Credits: 3

Secondary Education

ESE 3034 Current Problems and Issues in Secondary Education. SS.
Credits: 1; Prereq: Sophomore standing.
Current problems and issues presented by departmental faculty. May be repeated with change of content up to a maximum of 3 credits.

ESE 3932 Selected Topics in Secondary Education. F, S, SS.
Credits: 1 to 2; Prereq: Consent of the Department.
Introduction to various secondary curricula areas: English, Foreign Language, Mathematics, Science, Social Studies. The student will examine in his subject field current research and will participate in supervised field experiences. May be repeated for a maximum of 12 credits.

ESE 3940 Laboratory Experience in Secondary School Instruction. F, S, SS.
Credits: 1 to 4
Participation in the school laboratory situations with weekly conference or seminar on instructional procedures and curriculum planning to be arranged in lieu of regular class schedule. May be repeated with a change of content to a maximum of 10 credits.

ESE 4011 The Secondary School Today. F, S, SS.
Credits: 3; Prereq: Appropriate Psychological Foundations Course and Admission to Advanced Professional Sequence.
Purposes and organization of the secondary school curriculum, guidance program, application of learning theory, student activities, evaluating and reporting student progress. Application must be made at least one month in advance of registration in Office of Undergraduate Studies, Room 134 Norman Hall. Field experiences may be required of students.

ESE 4210 Secondary School Curriculum and Organization. F, S, SS.
Credits: 3; Prereq: EDF 3135 or EDF 4210; taken concurrently with appropriate methods course.
Emphasis on: (1) planning, (2) classroom management, (3) motivation, and (4) evaluation. Field experiences may be required of students.

ESE 4905 Individual Study. F, S, SS.
Credits: 1 to 4; may be repeated with a change of content up to a maximum of 10 credits.
Open only to selected undergraduate students who wish to study an individual problem in depth which relates to their preparation as secondary education teachers. The project must be approved and supervised by a departmental faculty member.

ESE 4943 Student Teaching in the Secondary School. F, S, SS.
Credits: 4 to 16††. Students in the College of Physical Education, Health and Recreation take this course for a letter grade. May repeat to a maximum of 16; Prereq: See "Admission to Student Teaching in Any Teacher Education Program," and approval of the Secondary Education staff.
Student teaching in selected classrooms, special seminars, and continuous evaluation of teaching experiences. No other courses may be taken during the student teaching quarter when the student is registered for 11 semester hours.

GRADUATE COURSES

ESE 6385 Supervision of Pre-Service Teachers.
Credits: 1 to 3

ESE 6905 Individual Work
Credits: 1 to 4; maximum of 12 credits.

ESE 6920 Secondary Education Lecture Series.
Credits: 1; maximum of 2 credits.

ESE 6939 Special Topics.
Credits: 1 to 4; maximum of 12 credits.

ESE 6940 Supervised Teaching.
Credits: 1 to 5††

ESE 7922 Secondary Education Colloquium.
Credits: 1††; maximum of 3 credits.

ESE 7935 Seminar in Secondary Education.
Credits: 1 to 4; maximum of 8 credits.

Social Studies Education

SSE 4333 Methods and Materials for Social Studies. F, S, SS.
Credits: 3; Prereq: EDF 3135 or 4210; ESE 4210 taken concurrently.
Presents methods of teaching social studies in secondary schools.

GRADUATE COURSES

EDS 6100 Group Process in Education
Credits: 3

EDS 6925 Workshop in Human Relations
Credits: 2 to 6

SSE 6046 Perspectives in Social Studies Education
Credits: 3

SSE 6117 Social Studies Education — Elementary School.
Credits: 3

SSE 6133 Social Studies in the Secondary School.
Credits: 3

SSE 6377C Practicum in Secondary Social Studies Instruction.
Credits: 3

SSE 6398 Analysis and Evaluation of Social Studies Instruction
Credits: 3

SSE 7939 Seminar in Social Studies.
Credits: 3

Speech Education

SED 4335 The Teaching of Speech in the Secondary Schools. F, S.
Credits: 3; Prereq: 8 hours of Speech.
A practical philosophy of speech education as it functions at the secondary school level; methods of training in the speech arts.

ELECTRICAL ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1981-82

Cherrington, B.E., Chairman; Allen, E.J.; Bailey, R.L.; Basile, G.; Beasley, W.H.; Bullock, T.E.; Burk, D.E.; Chen, W.H.; Chenette, E.R.; Childers, D.G.; Couch, L.W.; Doty, K.L.; Elgerd, O.I.; Fossum, J.G.; Kalman, R.E.; Kamen, E.W.; Khargonekar, P.P.; Lam, H.; Latour, M.H.; Li, S.S.; Lindholm, F.A.; MacQuigg, D.R.; Meystel, A.M.; Neugroschel, A.; Nevis, A.H.; O'Malley, J.R.; Peebles, P.Z.; Priem, E.S. (Emeritus); Ramaswamy, V.; Ramey, R.A.; Schoenfeld, D.W.; Shaffer, C.V.; Smith, J.R.; Staudhammer, J.; Su, S.Y.W.; Sullivan, R.L.; Sutherland, A.D.; Tou, J.T.; Uman, M.A.; van der Ziel, A.; Van Vliet, K.; Watson, J.K.; Yii, R.

ENGINEERING: Electrical

Although not specifically stated, the prerequisites for all courses, except those required by other departments, may include classification as an electrical engineering student in good standing.

Engineering: Electrical

EEL 3003 Elements of Electrical Engineering. F, S, SS.
Credits: 3; Prereq: MAC 3313, PHY 2049.
An introduction to the theory and practice of electrical engineering for students not majoring in electrical engineering; circuits, machines, electronics, and systems.

EEL 3111 Circuits 1. F, S, SS.
Credits: 3; Prereq: PHY 2049, MAC 3313.
Basic analysis of dc and ac electric circuits.

EEL 3112C Circuits 2. F, S, SS.
Credits: 4; Prereq: EEL 3111, MAP 3302, COP 3212.
Continuation of EEL 3111. Laboratory.

EEL 3135 Signals and Systems. F, S, SS.
Credits: 3; Prereq: EEL 3112C.
Convolution, applications of Fourier, Laplace, and Z transforms.

EEL 3211 Basic Electric Energy Engineering. F, S.
Credits: 3; Prereq: EEL 3111.
Generation, transformation, and transmission of electric energy in bulk quantities. Ac and dc motors.

EEL 3303L Electrical Circuits Laboratory. F, S, SS.
Credits: 1; Coreq: EEL 3003 or EEL 3111.
Introductory electrical engineering laboratory in electrical instrumentation, devices, and systems.

EEL 3304 Electronic Circuits. F, S, SS.
Credits: 4 Prereq: EEL 3111.
Fundamentals of analog and digital electronic circuits and systems.

EEL 3368 Electronics Systems and Instrumentation. F, S.
Credits: 2; Prereq: EEL 3003.
Fundamental techniques of electronic instrumentation and control systems. For nonelectrical engineering majors.

EEL 3396 Solid-State Electronic Devices. F, S.
Credits: 3; Coreq: EEL 3111.
Introduction to the principles of semiconductor electron device operation.

EEL 3472 Electromagnetic Fields and Applications 1. F, S.
Credits: 3; Prereq: EEL 3111.
Electric and magnetic fields and forces, Maxwell's equations in point and integral form, plane wave propagation, energy and power.

EEL 3473 Electromagnetic Fields and Applications 2. S.
Credits: 3; Prereq: EEL 3472.
Boundary value problems, transmission lines, guided waves, introduction to radiation principles.

EEL 3701C Introduction to Computer Engineering. F, S, SS.
Credits: 4; Prereq: COP 3212.
An overview of logic design, algorithms, computer organization and assembly language programming, and computer engineering technology. Laboratory.

EEL 4201L Electrical Energy Conversion Laboratory. F, S.
Credits: 1; Coreq: EEL 3211.
Electric energy conversion, devices, and systems.

EEL 4204 The Unified Theory of Electrical Machines. F.
Credits: 3; Prereq: EEL 3211.
Theory of ac and dc electrical machines, machine control.

EEL 4213 Electric Energy Systems 1. F.
Credits: 3; Prereq: EEL 3211.
Development of system models for generators, transformers and transmission lines. Power flow analysis.

EEL 4214 Electric Energy Systems 2. S.
Credits: 3; Prereq: EEL 4213; Coreq: EEL 4657.
Optimal power dispatch. Automatic generator control. Fault analysis. Emergency control.

EEL 4272 Surge Overvoltages in Power Systems. S.
Credits: 3; Coreq: EEL 3112 and EEL 3211.
Switching transients; interaction between lightning and power systems; traveling waves; power apparatus insulation coordination; computer aids; instrumentation for specialized surge testing.

EEL 4280 Alternate Energy Sources 1. F.
Credits: 3; Prereq: Senior standing in engineering.
The world energy situation, biomass, geothermal, hydro, wind, nuclear, and other alternatives. Thermodynamics and efficiencies. Energy transport and storage.

EEL 4281 Alternate Energy Sources 2. S.
Credits: 3; Prereq: EEL 4280; Coreq: EEL 4281L.
Direct energy conversion including thermoelectrics, magneto hydrodynamics, thermionics, photovoltaics, fuel cells, and electrogasdynamics. Introduction to solar energy systems with emphasis on applications.

††Grading is on S-U basis only.

Descriptions

ELECTRICAL ENGINEERING

EEL 4281L Alternate Energy Sources Laboratory. S.
Credits: 1 to 3; Prereq: Instructor permission; Coreq: EEL 4281.
Creative project laboratory with emphasis on direct energy conversion, solar and other alternative energy devices and systems.

EEL 4285 Solar-Electric Engineering. S.
Credits: 3; Prereq: Senior status in engineering.
Theory and applications of generating electric energy from the sun including thermal, direct, wind, sea, and biological methods, and large solar-electric systems and energy storage.

EEL 4304L Electronics Laboratory. F, S, SS.
Credits: 1; Prereq: EEL 3303L; Coreq: EEL 3304.
Electronic instrumentation, devices and systems.

EEL 4310C Nonlinear Electronic Circuits. S.
Credits: 3; Prereq: EEL 3304.
Design of nonlinear shaping circuits. Counting and gating circuits. Laboratory.

EEL 4314 Integrated Circuit Design. F.
Credits: 3; Prereq: EEL 4331C.
Principles and practices of integrated circuit design with emphasis on large scale CMOS. Each student will design a small system or circuit to be included on the class chip.

EEL 4331C Solid-State Technology. F, S.
Credits: 3; Prereq: EEL 3396.
Principles of solid-state device fabrication. Laboratory.

EEL 4351 Electron Device Fundamentals 1. F.
Credits: 3; Prereq: EEL 3396.
Physical principles of modern solid-state devices and their practical applications.

EEL 4352 Electron Device Fundamentals 2. S.
Credits: 3; Prereq: EEL 4351.
Continuation of EEL 4351.

EEL 4374C Linear Amplifier Design. F.
Credits: 3; Prereq: EEL 3304.
Analysis and design of linear amplifiers including operational, high-frequency, broadband, and feedback amplifiers. Laboratory.

EEL 4436 Microwave Techniques. F.
Credits: 3; Prereq: EEL 3472; Coreq: EEL 4436L.
Waveguides and resonant cavities. Methods of generating, transmitting, and receiving microwaves.

EEL 4436L Microwave Laboratory. F.
Credits: 1; Coreq: EEL 4436.
The laboratory for the corequisite course EEL 4436, Microwave Techniques.

EEL 4461 Antenna Systems. S.
Credits: 3; Prereq: EEL 3472.
Electromagnetic field theory and its application to antenna design.

EEL 4479 Applications of Magnetism. F.
Credits: 3.
Properties and processes in magnetic materials are introduced through examples such as inductors, pulse transformers, memory elements and microwave components.

EEL 4514 Communication Systems and Components. F, S.
Credits: 3; Prereq: EEL 3135.
Theory of communication, and applications to radio, television, radar and telemetry systems.

EEL 4514L Communication Laboratory. F, S, SS.
Credits: 1; Prereq: EEL 4304L; Coreq: EEL 4514.
Communication circuits and radio frequency instruments, devices, and measurements.

EEL 4516 Noise in Devices and Communication Systems. S.
Credits: 3; Prereq: EEL 4514.
Origin, characterization and measurement of random noise. Calculation of signal-to-noise ratios and probability of errors in communication systems.

EEL 4657 Linear Control Systems. F, S.
Credits: 3; Prereq: EEL 3135 or consent of instructor.
Theory and design of linear control systems.

EEL 4712C Digital Computer Principles 1. F.
Credits: 4; Prereq: EEL 3701C.
Advanced logic design, design languages, "infinite" state machines, modular and tesselated logic. Laboratory.

EEL 4713C Digital Computer Principles 2. S.
Credits: 4; Prereq: EEL 3701C.
The use of electronic digital modules to design computers. Organization and operation of computers. Hardware/software tradeoffs. Design of computer interfacing. Laboratory.

EEL 4744C Microcomputer Hardware and Software. S.
Credits: 4; Prereq: EEL 3701C and either EEL 3003 or EEL 3304.
Functional behavior of microprocessor, memory, and peripheral support integrated circuit hardware; microcomputer system and development software; applications. Laboratory.

EEL 4905 Individual Problems in Electrical Engineering. F, S, SS.
Credits: 1 to 3; Prereq: Recommendation of Department Chairman.
Selected problems or projects in the student's major field of engineering study. May be repeated with a change of content up to a maximum of 8 credits.

EEL 4914L Electrical Engineering Projects Laboratory. F, S, SS.
Credits: 1; Prereq: EEL 4304L, EEL 4201L, or EEL 4514L.
This is an advanced undergraduate laboratory involving engineering applications in the various areas of electrical engineering. May be repeated for additional credit.

EEL 4930C Special Topics in Electrical Engineering. F, S, SS.
Credits: 1 to 4; Prereq: Permission of instructor.
Special courses covering selected topics in electrical engineering. May be repeated with change of content up to a maximum of 4 credits.

EEL 4941 Creative Problem Solving. F.
Credits: 3; Prereq: Senior status in engineering.
Development of an ordered problem solving approach for complex engineering problems with emphasis on creative techniques and writing meaningful engineering reports; seeks to enhance both individual and team creative outputs.

EEL 4949 Co-op Work Experience. F, S, SS.
Credits: 1††; Prereq: EG classification.
Practical co-op engineering work under approved industrial supervision.

GRADUATE COURSES

CDA 6108 Advanced Computer Architecture.
Credits: 3

COP 5630 Software Engineering.
Credits: 3

EEL 5134 Analysis of Nonlinear Systems.
Credits: 2

EEL 5182 State Variable Methods in Linear Systems.
Credits: 3

EEL 5268 Control of Electric Energy Systems.
Credits: 3

EEL 5370C Applied Electronics.
Credits: 4

EEL 5485 Applied Magnetics.
Credits: 3

EEL 5493 Introduction to Optical Fibers.
Credits: 3

EEL 5544 Noise in Linear Systems.
Credits: 3

EEL 5562 Image Processing and Computer Vision.
Credits: 3

EEL 5631 Digital Control Systems.
Credits: 3

EEL 5718 Computer Communications.
Credits: 3

EEL 5719C Digital Filtering.
Credits: 3

EEL 5745C Microcomputer Hardware and Software.
Credits: 4

EEL 5761 Hardware-Software Interactions: Time Sharing.
Credits: 3

EEL 5768 Computer Interfacing.
Credits: 2

EEL 5821 Data Base Engineering.
Credits: 3

EEL 5905 Individual Work.
Credits: 1 to 4; maximum of 8 credits.

EEL 5934 Special Topics in Electrical Engineering.
Credits: 1 to 3; maximum of 8 credits.

EEL 6156 Advanced Circuit Analysis.
Credits: 3

EEL 6171 Advanced System Theory.
Credits: 4

EEL 6264 Advanced Electric Energy Systems 1.
Credits: 3

EEL 6265 Advanced Electric Energy Systems 2.
Credits: 3

EEL 6267 Advanced Electromechanical Energy Conversion.
Credits: 2

EEL 6311 Electronic Circuits 1.
Credits: 3

EEL 6312 Electronic Circuits 2.
Credits: 3

EEL 6315 Solid-State Circuits 1.
Credits: 2

EEL 6316 Solid-State Circuits 2.
Credits: 2

EEL 6317 Solid-State Circuits 3.
Credits: 2

EEL 6381 Network Representation of Solid-State Devices.
Credits: 2

EEL 6382 Semiconductor Physical Electronics 1.
Credits: 3

EEL 6383 Semiconductor Physical Electronics 2.
Credits: 3

EEL 6388 Fluctuation Phenomena.
Credits: 3

EEL 6397 Semiconductor Device Theory 1.
Credits: 3

EEL 6398 Semiconductor Device Theory 2.
Credits: 3

EEL 6442 Physical Optics for Engineers.
Credits: 3

EEL 6443 Integrated Optics.
Credits: 3

††Grading is on S-U basis only.

EEL 6486 Electromagnetic Field Theory and Applications 1.
Credits: 3

EEL 6487 Electromagnetic Field Theory and Applications 2.
Credits: 3

EEL 6489 Current Topics in Applied Magnetics.
Credits: 3

EEL 6503 Signal Representation and Design.
Credits: 3

EEL 6505 Digital Signal Processing.
Credits: 3

EEL 6509 Space Communications.
Credits: 3

EEL 6524 Statistical Decision Theory.
Credits: 3

EEL 6534 Theory of Communication.
Credits: 3

EEL 6535 Analog Communication Concepts.
Credits: 3

EEL 6614 Modern Control Theory 1.
Credits: 3

EEL 6615 Modern Control Theory 2.
Credits: 3

EEL 6733 Abstract Machines and Languages.
Credits: 3

EEL 6769 Hardware-Software Interactions: Nonnumeric Processing.
Credits: 3

EEL 6824 Algorithm Design and Analysis.
Credits: 3

EEL 6825 Pattern Recognition and Intelligent Systems.
Credits: 3

EEL 6827 Topics in Computer Engineering.
Credits: 3

EEL 6905 Individual Work.
Credits: 1 to 4; maximum of 8 credits.

EEL 6910 Supervised Research.
Credits: 1 to 5††

EEL 6932 Graduate Seminar.
Credits: 1††

EEL 6935 Special Topics in Electrical Engineering.
Credits: 1 to 4; maximum of 12 credits.

EEL 6940 Supervised Teaching.
Credits: 1 to 5††

EEL 6971 Research for Master's Thesis.
Credits: 1 to 15††

EEL 7980 Research for Doctoral Dissertation.
Credits: 1 to 15††

Engineering: Electrical Lab and Related Areas

ELR 4116 Electric Energy System Instrumentation. S.
Credits: 2.
Instrumentation and equipment for control and protection of electric power system components. Carrier and other types of communication systems and their applications to the electric power industry.

GRADUATE COURSES

ELR 5112 Automatic Speech Processing.
Credits: 3

ELR 5210 Cybernetics.
Credits: 3

ELR 6225 Electrical Activity of the Nervous System
Credits: 2

ELR 6226 Biophysical Models of Nerve Impulse Propagation.
Credits: 2

ENGINEERING SCIENCE AND MECHANICS
College of Engineering
Department of Engineering Sciences

INSTRUCTIONAL STAFF 1981-82

Millsaps, Knox, Chairman; Eisenberg, M.A., Associate Chairman; Anderson, R.C.; Bisplinghoff, R.L.; Boykin, W.H., Jr.; Clarkson, M.H.; Cristescu, N.; Doddington, H.W.; Ebcioglu, I.K.; Edson, C.G.; Fearn, R.L.; Green, A.E.S.; Grinter, L.E.; Hemp, G.W.; Hirko, R.J.; Hoover, J.W.; Hsu, C.-C.; Jenkins, D.A.; Kalman, R.E.; Kurzweg, U.H.; Leadon, B.M.; Lindgren, E.R.; Longuet-Higgins, M.S.; Lu, S.Y.; Malvern, L.E.; Milton, J.E.; Nevill, G.E., Jr.; Partheniades, E.; Ross, C.A.; Sierakowski, R.L.; Sun, C.T.; Taylor, C.E.; von Ohain, H. J. P.; Walsh, E.K.

Although not separately stated, the prerequisites for all courses offered by the Department of Engineering Sciences may include classification as a student in good standing in aerospace engineering, engineering science and/or other engineering program for which curriculum the particular course is required. Such prerequisite will *not* be applied routinely. Students from throughout the university are encouraged to enroll for all courses for which they have the specific prerequisite background.

Engineering: General

EGN 1002 Introduction to Engineering. F, S.
Credits: 1
The role of the engineer in today's society. A survey of the fields of engineering and technology.

EGN 3023 Introduction to Physical Systems. F, S, SS.
Credits: 1
Selected engineering problems, set in a professional context and solvable by elementary numerical methods using basic physical laws and common sense. The course provides a relationship between the physical sciences, mathematics and engineering analysis.

EGN 3353 Fluid Mechanics. F.
Credits: 3; Prereq: EGM 3400 or 3420, MAC 3313.
Statics and dynamics of incompressible and compressible fluids. Equations of continuity, energy and momentum with application to viscous and inviscid flows. Dimensional analysis.

Engineering: Mechanics

EGM 3311 Introduction to Engineering Analysis. F, S.
Credits: 3; Prereq: MAC 3313.
Solution methods for linear and nonlinear ordinary differential equations with constant and variable coefficients. Laplace transform techniques for initial value problems. Emphasis on formulation of mathematical models of physical systems.

EGM 3400 Engineering Mechanics-Dynamics. F, S, SS.
Credits: 2; Prereq: EGM 3511, MAC 3313.
Dynamics of particles and rigid bodies for rectilinear translation, curvilinear motion, rotation and plane motion. Principles of work and energy, also impulse and momentum.

EGM 3420 Engineering Mechanics. F, S.
Credits: 4; Prereq: PHY 2048, MAC 3313.
Reduction of force systems. Equilibrium of particles and rigid bodies. Principles of work, energy, impulse and momentum. Application to structures and mechanisms. (NOTE: EGM 3420 is equivalent in content to EGM 3511 plus EGM 3400. It is recommended for students well prepared in the prerequisite mathematics and physics.)

EGM 3511 Engineering Mechanics-Statics. F, S, SS.
Credits: 3; Prereq: PHY 2048, MAC 3312.
Reduction of force systems. Equilibrium of particles and rigid bodies. Vector methods. Application to structures and mechanisms. (NOTE: EGM 3420 is equivalent in content to EGM 3511 plus EGM 3400. It is recommended for students well prepared in the prerequisite mathematics and physics.)

EGM 3520 Mechanics of Materials. F, S, SS.
Credits: 3; Prereq: EGM 3420 (or EGM 3511), MAC 3313.
Stress and strain at a point, stress-strain-temperature relations and mechanical properties of materials. Systems subject to axial load, torsion and bending. Design concepts, indeterminate structures, applications.

EGM 4000 Engineering Design 1. F.
Credits: 3; Prereq: Senior standing in Engineering Science or permission of Instructor.
Emphasis on overall design and analysis of complex engineering systems. Materials, structural, chemical, control, nuclear, mechanical, electrical, and operational problems; cost analysis.

EGM 4001 Engineering Design 2. S.
Credits: 3; Prereq: EGM 4000.
Continuation of EGM 4000.

EGM 4008 Introduction to Engineering Optics. F.
Credits: 3; Prereq: PHY 2049.
Definition of the optical system. Calculation of radiometric quantities. Line and gray body sources. Atmospheric transmission. Selected topics in optics. Calculation of radiant flux through an optical system.

EGM 4009 Engineering Optics. S.
Credits: 3; Prereq: EGM 4008.
Optical modulation. Detectors, their selection and use. Noise, Signal processing. Design and analysis of an optical system.

EGM 4200 Fundamental Vibration Analysis. F, SS.
Credits: 3; Prereq: EGM 3420 (or EGM 3400) and EGM 3520.
Undamped free and forced vibrations of systems on one degree of freedom, damped vibrations. Vibrations of systems with more than one degree of freedom. Shock and vibration isolation. Instruments for vibration analysis.

EGM 4312 Engineering Analysis — Field Theory. S.
Credits: 4; Prereq: EGM 3311 or MAP 3302.
Fundamentals of vector field theory and complex variables and their applications to problems in mechanics, electromagnetism and heat transfer. Conformal mapping techniques and evaluation of integrals by contour methods.

EGM 4313 Engineering Analysis — Differential Equations. F.
Credits: 4; Prereq: EGM 3311 or MAP 3302.
Solution methods for ordinary and partial differential equations arising from mathematical models of physical systems. Series solutions of variable coefficient ordinary differential equations. Bessel and Legendre functions. Solution of systems of linear ordinary differential equations. Separation of variable techniques for constant coefficient partial differential equations.

EGM 4344 Introduction to Numerical Methods of Engineering Analysis. S.
Credits: 3; Prereq: EGM 4313 or equivalent, COP 3212 or FORTRAN knowledge.
Numerical methods for curve-fitting and functional approximation. Solution of polynomial and linear algebraic equations. Quadrature and dif-

††Grading is on S-U basis only.

ferentiation formulae. Finite differences and finite element solutions to systems of differential equations. Emphasis on engineering applications (beams, vibration, heat convection . . .) and on computer implementation of methods.

EGM 4560 Mechanical Properties of Materials. S.
Credits: 2; Prereq: EGM 3520.
Introduction to the science of engineering materials. Application of solid state mechanics to mechanical properties of materials including elasticity, plasticity, fracture, creep and relaxation.

EGM 4901 Special Topics in Engineering Science and Mechanics. F, S, SS.
Credits: 1 to 4. Prereq: Permission of instructor.
May be repeated with change in content to a maximum of 8 credits.

EGM 4905 Individual Study in Engineering Science and Mechanics. F, S, SS.
Credits: 1 to 4; May be repeated to a maximum of 8 credits. Prereq: Recommendation of Department Chairman.
Selected problems or projects in the student's major field of engineering study.

EGM 4910L Laboratory Projects. F, S, SS.
Credits: 2; Prereq: Any one of EAS 4002, ECH 3264, EGN 3353 or EML 3101.
Experimental analysis of individually selected laboratory or field projects in concurrence with lectures on the principles of scientific research.

EGM 4949 Co-op Work Experience. F, S, SS.
Credits: 1††; Prereq: 4EG classification.
One term of industrial employment, including extra work according to a pre-approved outline. Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

GRADUATE COURSES

EGM 5005 Laser Principles and Applications.
Credits: 3

EGM 5111L Experimental Stress Analysis.
Credits: 3

EGM 5421 Modern Techniques of Structural Dynamics 1.
Credits: 3

EGM 5430 Intermediate Dynamics.
Credits: 3

EGM 5533 Advanced Mechanics of Solids and Structures.
Credits: 3

EGM 5550 Elevated Temperature Stress Analysis.
Credits: 3

EGM 5905 Individual Study.
Credits: 1 to 6; Maximum of 6 credits

EGM 6215 Theory of Structural Vibrations 1.
Credits: 3

EGM 6225 Theory of Structural Vibrations 2.
Credits: 3

EGM 6235 Nonlinear Vibrations.
Credits: 3

EGM 6245 Random Vibrations.
Credits: 3

EGM 6250 Theoretical Acoustics.
Credits: 3

EGM 6321 Principles of Engineering Analysis 1.
Credits: 3

EGM 6322 Principles of Engineering Analysis 2.
Credits: 3

††Grading is on S-U basis only.

EGM 6323 Principles of Engineering Analysis 3.
Credits: 3

EGM 6324 Principles of Engineering Analysis 4.
Credits: 2

EGM 6341 Numerical Methods of Engineering Analysis 1.
Credits: 3

EGM 6342 Numerical Methods of Engineering Analysis 2.
Credits: 3

EGM 6351 Finite Element Methods.
Credits: 3

EGM 6422 Modern Techniques of Structural Dynamics 2.
Credits: 2

EGM 6444 Advanced Dynamics 1.
Credits: 3

EGM 6445 Advanced Dynamics 2.
Credits: 3

EGM 6460 Stability of Dynamical Systems.
Credits: 3

EGM 6476 Inertial Guidance and Control.
Credits: 3

EGM 6478 Nonlinear Control Systems.
Credits: 3

EGM 6551 Introduction to Theory of Thermal Stresses.
Credits: 2

EGM 6584 Principles of Mechanics in Biomedical Engineering.
Credits: 3

EGM 6611 Continuum Mechanics 1.
Credits: 3

EGM 6612 Continuum Mechanics 2.
Credits: 3

EGM 6613 Advanced Continuum Mechanics.
Credits: 2

EGM 6652 Introduction to Elasticity.
Credits: 3

EGM 6653 Theory of Elasticity.
Credits: 3

EGM 6670 Introduction to Inelastic Behavior of Materials.
Credits: 3

EGM 6671 Theory of the Inelastic Continuum.
Credits: 3

EGM 6682 Theory of Viscoelasticity.
Credits: 2

EGM 6683 Dynamic Plasticity.
Credits: 2

EGM 6684 Special Topics in Dynamic Plasticity.
Credits: 1 to 3; Maximum of 6 credits

EGM 6716 Theory of Plates.
Credits: 3

EGM 6717 Theory of Shells 1.
Credits: 3

EGM 6718 Theory of Shells 2.
Credits: 3

EGM 6736 Theory of Elastic Stability.
Credits: 3

EGM 6811 Fundamentals of Fluid Dynamics.
Credits: 3

EGM 6812 Inviscid Fluid Flow.
Credits: 3

EGM 6813 Viscous Fluid Flow.
Credits: 3

EGM 6835 Boundary Layer Theory.
Credits: 3

EGM 6845 Turbulent Fluid Flow.
Credits: 3

EGM 6905 Individual Study.
Credits: 1 to 6; Maximum of 12 credits

EGM 6910 Supervised Research.
Credits: 1 to 5††

EGM 6934 Special Topics in Engineering Mechanics.
Credits: 1 to 6; Maximum of 12 credits

EGM 6936 Graduate Seminar.
Credits: 1††; Maximum of 6 credits

EGM 6940 Supervised Teaching.
Credits: 1 to 5††

EGM 6971 Research for Master's Thesis.
Credits: 1 to 15††

EGM 7980 Research for Doctoral Dissertation.
Credits: 1 to 15††

ENGLISH
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

New, M., Chairman; Anderson, B.J.; Baldwin, R.M.; Beyette, T.K.; Brantley, R.E.; Bredahl, A.C.; Byron, K.H.; Carnell, C.S.; Carpenter, R.H.; Cech, J.; Childers, W.C.; Clark, I.; Closson, D.; Crews, H.E.; Deakin, M.F.; de Beaugrande, R.A.; Duckworth, A.M.; Foreman, R.C.; Goldhurst, W.; Gordon, A.M.; Green, R.H.; Haskins, J.; Hetrick, L.A.; Hill-Lubin, M.A.; Hodges, J.R.; Holden, E.S.; Homan, S.R.; Kelly, D.L.; Kem, C.; Kershner, R.B.; Kirkpatrick, M.S.; Langford, A.G.; Leavey, J.; Lisca, P.; Locke, D.M.; Lopez, T.; Losano, W.A.; McCarthy, K.M.; McCrea, B.R.; Malvern, M.; Neale, J.R.; Nelson, D.M.; Paris, B. J.; Perlette, J.M.; Pickard, J.B.; Ray, R.B.; Robinson, W.R.; Schmidt, P.; Sciadini, F.; Scott, J.C.; Shaw, H.B.; Smith, D.J.; Smith, J.; Snodgrass, C.G.; Straus, B.R.; Sunwall, J.; Taylor, F.; Thompson, I.S.; Thompson, R.M.; Thomson, R.S.; Tillman, C.A.; Twitchell, J.B.; Ulmer, G.L.; Wear, R.A.; Williams, A.L.

Beginning students are normally expected to complete ENC 1101 and ENC 1102 which are designed for freshmen. Qualified students, however, may substitute more advanced courses (2000 level) with the approval of a departmental adviser. Prerequisite to all 3000 and 4000 level courses is 6 hours of English or permission of the instructor.

The freshman English requirement may also be satisfied by the CLEP examination. Students should seriously consider their decision about taking the CLEP general examination in English. Experience has shown that those who score below the 75th percentile are often handicapped because they have not had college courses in composition. The examination must be taken before the end of the first term at the University; students must take the option that includes an essay examination, so that their scores will be at least partially based on a writing sample.

Students in the lower division who intend to major in English should consult as soon as possible with a departmental adviser in 4008 GPA or 358 Little Hall.

The Departmental Major: The student must complete a minimum of 27 semester hours of English courses, in addition to the general education English requirement of 6 hours. At least 19 hours must be in courses numbered 3000 or above. The English Major consists of a group of required courses and a group of electives.

A. The requirements for the English Major include:
1. One course in the English language. LIN 4100 (History of the English Language) is rec-

ommended. LIN 3370 (Modern English Structure) will also satisfy this requirement.
2. One course in literary theory or criticism. The following courses will satisfy this requirement: ENG 3011 (The Major Critics), ENG 3010 (The Theory and Practice of Modern Criticism), LIT 3003 (Forms of Narrative), LIT 4001 (Studies in Literary Genres).
3. One writing course. ENC 3310 (Advanced Exposition), ENC 3312 (Advanced Argumentative Writing) or SPC 3605 (Speechwriting), are recommended.
4. Survey courses in British and American literature: (1) ENL 2012 (Survey of English Literature: Medieval to 1750), and (2) either ENL 2022 (Survey of English Literature: 1750 to Present) or AML 2012 (Survey of American Literature: From the Beginnings to Crane) or AML 2023 (Survey of American Literature: From Crane to the Present). If they wish to do so, students may substitute comparable advanced courses. If they do make these substitutions, they still must satisfy the survey criterion of this requirement. They should secure the permission of an English Department adviser.

B. The electives for the English Major consist of four courses. It is recommended that students use some of these four courses to establish an area of emphasis within their major suited to their individual needs and preferences. Examples of areas of emphasis the student may choose are literature, linguistics, writing, film, folklore, preprofessional studies, children's literature. The student should consult with an English Department adviser when working out elective programs.

Teaching Certification: Students who wish to be certified to teach in the secondary schools should follow the same program as the departmental major; see the appropriate pages in the College of Education section of this catalog for additional requirements.

Honors. To graduate with Departmental Honors, one must have an overall GPA of 3.5 and must have earned satisfactory grades (A or B) in at least two semesters of ENG 4936, the Honors Seminar, and in one semester of ENG 4970, the Honors Thesis Project. Admission to ENG 4936 and ENG 4970 requires the recommendation of a departmental adviser. Students who have a GPA of 3.5 and whose Honors Thesis is of exceptional merit may be recommended for High Honors.

UNDERGRADUATE COURSES

American Literature

(See also ENGLISH—GENERAL for other courses in American Literature).

AML 2012 Survey of American Literature: From the Beginnings to Crane.
Credits: 3
Critical study of masterpieces embodying the main lines of literary tradition in the period.

AML 2023 Survey of American Literature: From Crane to the Present.
Credits: 3
Critical study of masterpieces embodying the main lines of literary tradition in the period.

AML 3114 American Fiction: Beginnings to 1900.
Credits: 3
Includes works by Cooper, Poe, Hawthorne, Melville, Twain, Howells, and James.

AML 3124 American Fiction: 1900 to World War II.
Credits: 3
Includes works by Crane, Dreiser, Hemingway, Fitzgerald, Faulkner, Mailer, and Barth.

AML 3271 Afro-American Literature.
Credits: 3
A study of literature—prose, fiction, drama, poetry, essays—by representative black American authors, with emphasis on the twentieth century.

AML 4031 American Literature: 1620 to 1860.
Credits: 3
Literature from the colonial, federal, and romantic periods. Representative works by such authors as Taylor, Edwards, Franklin, Irving, Poe, Thoreau, and Emerson.

AML 4032 American Literature: 1860 to 1900.
Credits: 3
Literature of the American realist period. Representative works by such authors as Whitman, Dickinson, Twain, James, Howells, Cable, and Jewett.

AML 4041 American Literature: 1900 to World War II.
Credits: 3
Literature of the naturalist period. Representative works by such authors as Robinson, Frost, Hemingway, O'Neill, Faulkner, Stevens, and Steinbeck.

AML 4061 American Literature since World War II.
Credits: 3
Representative works by such authors as Baldwin, Barth, Bellow, Ellison, O'Connor, Pynchon, Miller, Williams, Lowell, Roethke.

AML 4311 Major Figures of American Literature.
Credits: 3
A variable content course which will cover one major author each semester. May be repeated once with change of content. Consult department for description of offering.

Creative Writing

(See also ENGLISH COMPOSITION for other writing courses.)

CRW 2100 Beginning Fiction Writing.
Credits: 3
A beginning course in fiction writing designed to acquaint the student with the craft of writing. Original works of fiction by the students will be read and discussed in class. Students may also be required to read and discuss published writing.

CRW 2300 Beginning Poetry Writing.
Credits: 3
A course designed to acquaint the student with the fundamentals of poetry writing by exploring the various forms and techniques of poetry. Original works of poetry by the students will be read and discussed in class. Students may also be required to read and discuss published writing.

CRW 3110 Imaginative Writing: Fiction.
Credits: 3
Designed to help the student who desires guidance in developing his capacity for original work in fiction writing. Ordinarily conducted by workshop and individual conferences, the course may require reading and discussion of some published writing.

CRW 3311 Imaginative Writing: Poetry.
Credits: 3
Designed to help the student who desires guidance in developing his capacity for original work in poetry writing. Ordinarily conducted by workshop and individual conferences, the course may require reading and discussion of some pubished writing.

CRW 3500 Beginning Course in Writing for Young Readers.
Credits: 3
A beginning course in writing for younger readers designed to acquaint the student with the problems and techniques of writing original work in fiction, poetry, drama, or nonfiction for younger readers. Student work will be read and discussed in class. The student may be required to read and discuss examples of published writing in the field.

CRW 4520 Advanced Writing for Younger Readers.
Credits: 3; Prereq: Permission of the instructor. Advanced work in the writing of original fiction, poetry, drama, or non-fiction for younger readers. Ordinarily conducted by workshop and conference, the course may require reading and discussion of published work in the field. May be repeated for credit.

CRW 4905 Individual Work in Fiction Writing.
Credits: 3; Prereq: Permission of the instructor. Individual projects in the writing of fiction for qualified students. May be repeated for credit.

CRW 4906 Individual Work in Poetry Writing.
Credits: 3; Prereq: Permission of the instructor. Individual projects in the writing of poetry for qualified students. May be repeated for credit.

English Composition

(See also CREATIVE WRITING for other writing courses).

ENC 1000 Developmental English.
Credits: 3
A beginning course in composition designed to prepare students for expository and argumentative writing. Does not satisfy the six hour general education requirement in English.

ENC 1001 Writing Laboratory.
Credits: 1††
Supplemental lab course for students desiring closely supervised work in writing. The course may be repeated.

ENC 1101 Expository and Argumentative Writing.
Credits: 3
An introduction to the methods of exposition and argumentation. Ten papers are required.

ENC 1102 Writing about Literature.
Credits: 3
Writing about novels, short stories, drama, and poetry, primarily by American and British authors. Six papers are required.

ENC 3213 Technical Writing and Business Communication.
Credits: 2 to 3; Prereq: Junior or Senior standing.
A survey of the forms and methods of communication used in business, industry, and government, including nonformal and formal reports, letters and résumés, and proposals.

ENC 3310 Advanced Exposition
Credits: 3
An advanced composition course in the methods of exposition: the writing of definition, classification, comparison and contrast, analysis, illustration, identification.

ENC 3312 Advanced Argumentative Writing.
Credits: 3
A course in advanced composition concerned with the writing of argument and critical analysis.

ENC 4255 Propaganda and the Humanities.
Credits: 3
A study of the techniques of propaganda and of the relationship of propaganda to the humanities.

ENC 4260 Advanced Professional Writing.
Credits: 3; Prereq: ENC 3213 or instructor's permission.
This course will focus on administrative communication, professional papers, research reports, proposals, and other major professional documents depending on the needs of the students, who must have developed communication skills.

English—General

ENG 2131 Understanding Film.
Credits: 3
A study of the film as an artistic medium. Emphasis will be placed upon such film elements as

††Grading is on S-U basis only.

ENGLISH

camera movement, sound, and editing as well as on narrative conventions. This course is a prerequisite for other courses in film studies. Does not satisfy the six hours general education requirements in English.

ENG 2935 English: College Honors.
Credits: 3
Enrollment by invitation. Writing about novels, short stories, drama, and poetry, primarily by American and British authors. Textual materials and assignments are chosen to match the abilities of Honors students.

ENG 3010 The Theory and Practice of Modern Criticism.
Credits: 3
An intensive study of the idea of art as it has evolved in 20th-century literary criticism and of the application of that idea to specific narrative, poetic and dramatic texts.

ENG 3011 The Major Critics.
Credits: 3
A reading in historical order of the major texts of literary criticism.

ENG 3113 The Movies as Narrative Art.
Credits: 3; Prereq: ENG 2131.
An examination of the movies as a mode of storytelling, with emphasis upon the difference between verbal and visual narration, and in relation to contemporary thought and values.

ENG 3121 History of the Film, Part I.
Credits: 3; Prereq: ENG 2131.
History of the film from its beginnings to the introduction of sound.

ENG 3122 History of the Film, Part II.
Credits: 3; Prereq: ENG 2131.
History of the film from sound to the present.

ENG 4133 Film Studies.
Credits: 3; Prereq: ENG 2131.
A course of variable content providing an opportunity for the study in-depth of film genres, notable film directors, and other significant topics on subjects related to film. May be repeated with a change of topic up to a maximum of 9 credits.

ENG 4905 Independent Study.
Credits: 1 to 3; Prereq: Permission of instructor and of the department head or his delegate.
For advanced students who desire to supplement the regular courses by independent reading or research under guidance. May be repeated with change of topic up to a maximum of 9 credits.

ENG 4936 Honors Seminar.
Credits: 3; Prereq: Recommendation by a departmental adviser.
Open to selected English majors. Intensive study by the seminar method of a limited topic in English and American literature or film. To obtain Department Honors (and possibly High Honors) ENG 4936 should be taken at least twice. May be repeated (maximum of 12 hours).

ENG 4970 Honors Thesis Project.
Credits: 2; Prereq: Completion of one semester of ENG 4936; recommendation by a departmental adviser. Open to English Honors Students.
Student will select an adviser from a designated list and carry out an independent research project culminating in the preparation of an Honors Thesis. Required for Departmental Honors (and High Honors).

ENGLISH LITERATURE

(See also ENGLISH—GENERAL for other courses in English Literature)

ENL 2012 Survey of English Literature: Medieval to 1750.
Credits: 4
Critical study of such representative authors as Chaucer, Spenser, Donne, Milton, and Pope.

ENL 2022 Survey of English Literature: 1750 to the Present.
Credits: 4
Critical study of such representative authors as Johnson, Wordsworth, Tennyson, Browning, Hopkins, Yeats, Lawrence, and Joyce.

ENL 2330 Introduction to Shakespeare.
Credits: 3
A course designed to introduce students to the pleasure and wisdom of Shakespeare's plays. Various approaches will be used: movie versions of the plays, staging of scenes from the plays, and discussion.

ENL 3112 The English Novel: 18th Century.
Credits: 3
Includes works by such writers as Defoe, Richardson, Fielding, Sterne, and Smollett.

ENL 3122 The English Novel: 19th Century.
Credits: 3
Includes works by such writers as Scott, Austen, Dickens, Thackeray, Eliot, and Hardy.

ENL 3132 The English Novel: 20th Century.
Credits: 3
Includes works by such writers as Conrad, Lawrence, Joyce, Forster, Woolf, Greene, and Waugh.

ENL 4210 Medieval English Literature.
Credits: 3
A survey of representative works of the Middle English period such as *Sir Gawain and the Green Knight, Pearl,* Malory's *Morte D'Arthur,* and selections from medieval drama and lyric poetry.

ENL 4220 Renaissance Literature: 16th Century.
Credits: 3
Variable topics, 1485-1603, such as Spenser, the rise of English prose, the development of English verse, the age of sonnets, Elizabethan fiction. Consult department for description of offering.

ENL 4221 Renaissance Literature: 17th Century.
Credits: 3
Variable topics, 1603-1700, such as Milton, the evolution in English prose styles, sacred and secular lyrics, the literature of paradox. Consult department for description of offering.

ENL 4230 The Age of Dryden and Pope.
Credits: 3
Selections from the best works of such writers as Dryden, Congreve, Addison, Swift, and Pope.

ENL 4231 The Age of Johnson.
Credits: 3
A study of the best works from Johnson, Boswell, Reynolds, Goldsmith, Blake and others writing between 1740-1800.

ENL 4241 The Romantic Period.
Credits: 3
Selections from the best works of such writers as Blake, Wordsworth, Coleridge, Scott, Shelley, and Keats.

ENL 4251 Victorian Literature.
Credits: 3
Selections from such writers as Tennyson, Browning, and Arnold.

ENL 4273 Twentieth Century British Literature.
Credits: 3
A variable topics course which may include major works of drama, poetry, or prose from twentieth century Britain.

ENL 4311 Chaucer.
Credits: 3
Reading and critical study of Chaucer's poetry. Emphasis will be on the *Canterbury Tales* or *Troilus and Criseyde* at the option of the instructor.

ENL 4333 Shakespeare.
Credits: 3
Shakespeare: A study of selected verse and plays from throughout Shakespeare's career, including comedies, histories, tragedies, and romances.

English as a Second Language

ESL 2341 English Language and Writing for Foreign Students.
Credits: 3
A composition course designed to teach the basics of expository writing. May be taken by foreign students as the equivalent of ENC 1101.

Humanities

HUM 4522 Literature and Opera.
Credits: 3
A study of literary and operatic forms with special emphasis on character and theme.

Linguistics

LIN 2340 English Grammar.
Credits: 2
A course in the basics of traditional English grammar designed as a complement to our composition and creative writing courses, as a review for those students who will take preprofessional exams, and as a basic course for students interested in improving their knowledge of English. Does not satisfy the six hour General Education requirement in English.

LIN 3370 Modern English Structure.
Credits: 3
A study of the grammar of current English from the viewpoint of modern linguistics.

LIN 4100 History of the English Language.
Credits: 3
The origins of the English language and its development from prehistoric times to present.

Library Science

LIS 2001 Use of Books & Libraries.
Credits: 2
Detailed study of the basic and most useful reference books and bibliographic aids. Practice problems in the use of specific titles and in how to find materials in the library. Does not satisfy six hour general education requirement in English.

LIS 2100 History of Books, Printing, and Libraries.
Credits: 2
The book, the invention of printing, and the place of libraries in the development of western culture. Does not satisfy six hour general education requirement in English.

Literature

(See also AMERICAN LITERATURE, ENGLISH—GENERAL, ENGLISH LITERATURE, LANGUAGE ARTS, and ENGLISH EDUCATION for other literature courses.)

LIT 2110 Survey of World Literature: Ancient to Renaissance.
Credits: 3
European literature from the ancients through the Renaissance. Satisfies the general education requirement in humanities.

LIT 2120 Survey of World Literature: 17th Century to Modern.
Credits: 3
European literature from the seventeenth century to the present. Satisfies the general education requirement in Humanities.

LIT 2931 Special Topics.
Credits: 3
In these courses instructors will choose topics in which they have a special competence and interest. Examples of topics used are utopian literature, Florida literature, fantasy. Topics will be announced by the department.

LIT 3003 The Forms of Narrative.
Credits: 3
A close reading and critical analysis of representative forms and styles of narrative, with the major objective of improving the student's ability to study narrative structures and theories of narrative.

LIT 3031 Studies in Poetry.
Credits: 3
A variable topics course providing a study in-depth of some particular genre such as the lyric, epic, sonnet, or of developments in periods or literatures such as Medieval, American, or African.

LIT 3041 Studies in Drama.
Credits: 3
A variable topics course providing a study in-depth of some particular genre such as comedy, tragedy, or of developments in periods such as the Elizabethan/Jacobean, Restoration, and Modern.

LIT 3043 Studies in Modern Drama.
Credits: 3
Representative selections from continental, British, and American playwrights.

LIT 3111 Great Books of the Western World I.
Credits: 3
Many of the great classics are read, analyzed and discussed. This is a two course sequence. In the first course the works of classical, medieval, and renaissance writers are read.

LIT 3121 Great Books of the Western World II.
Credits: 3
Second half of the course. Works of writers from the 18th century to the present are read.

LIT 3173 Jewish Literature.
Credits: 3
A variable content course in aspects of the Jewish literary experience, from the biblical narrative and Talmudic tales to Yiddish literature and the American Jewish novel.

LIT 3313 Modern Science Fiction.
Credits: 3
An interdisciplinary approach to contemporary trends in science fiction. Writers such as Orwell, Herbert, Delany, Vonnegut, and Miller are studied.

LIT 3353 Ethnic Literature.
Credits: 3
A study of selected literature representative of various ethnic groups in the United States, e.g., Native American, Black, Jewish, Hispanic, or a concentration on one of them.

LIT 3374 The Bible as Literature.
Credits: 3
A literary analysis of selections from the Old and New Testaments, with emphasis upon poetry and narrative.

LIT 3383 Women in Literature.
Credits: 3
A critical and thematic study of women in literature. A variable content course which may include fiction, poetry, or drama; English, American, or World Literature.

LIT 3400 Interdisciplinary Topics in Literature.
Credits: 3
Interdisciplinary studies of the vital relationship between literature and the other creative arts, the other humanistic disciplines, or the sciences and technology. Topics will vary.

LIT 3431 The Literature of Science.
Credits: 3
A close reading of major scientific works that have shaped man's view of the universe and his place in it. Included are works by such figures as Galileo, Harvey, Newton, Darwin, Freud, and Einstein.

LIT 4001 Studies in Literary Genres.
Credits: 3
A variable topics course providing a study in-depth in a particular literary genre such as the epic, satire, burlesque, etc. Consult department for description of offering in semester given.

LIT 4083 Studies in Modern Literature.
Credits: 3
A variable topics course providing a study in-depth of an author or a topic such as myth, symbolism, romanticism, or expressionism in modern literature. Consult department for description of offering.

LIT 4104 Studies in World Literature.
Credits: 3
A variable content course embracing topics such as the lyric, the prose epic, symbolist poetry, the impressionist novel, etc. Will include works from various countries studied in their historical and cultural context.

LIT 4194 African Literature in English.
Credits: 3
A critical and analytical study of representative Black African authors writing in English, notably Achebe, Awoonor, Ngugi, Aidoo, Soyinka, Armah, Ekwensi, Mphahlele, and p'Bitek'.

LIT 4320 Introduction to Folklore.
Credits: 3
Reading, discussion, and critical study of the types of folklore, with emphasis on folksong. Some attention to utilization by teachers and creative artists.

LIT 4322 The Folktale.
Credits: 3
Reading folktales, a study of their types and characteristics, some attention to critical and scholarly study, and utilization of folktales by teachers and creative artists.

LIT 4331 Children's Literature.
Credits: 3
Designed to arouse a genuine interest in children's books and to aid the student in obtaining a critical knowledge of the literature.

LIT 4332 Literature for Young Children.
Credits: 3
An exploration of kinds and qualities of literature for the younger child, examining the child's first experience with literature in oral forms, then moving on to picture and story books and poetry.

LIT 4333 Literature for the Adolescent.
Credits: 3
A study of the types of literature read by adolescents, with emphasis upon the criteria for the choice of good books and upon developing a familiarity with the many books available.

LIT 4930 Variable Topics in Literature and Language.
Credits: 3
Proseminar of variable content providing an opportunity for the study in-depth of various topics or subjects such as the literature of war and peace, of death, of courtly love. May be repeated with change of content up to a maximum of eight credits.

Reading

REA 2205 Advanced College Reading and Vocabulary Skills.
Credits: 1
This course is designed to develop reading skills through lectures, class discussion and practice in a laboratory.

Reading Education

RED 1343 Reading in the Content Area.
Credits: 1††
Supplemental lab course for students desiring closely supervised work in reading. This course may be repeated.

Speech Communication

(See also ENGLISH COMPOSITION for other composition courses. See ENGLISH—GENERAL for other courses in critical analysis and theory of criticism).

SPC 3605 Speechwriting.
Credits: 3
Consideration of and practice with word choice and word arrangement as sources of style that influence memorability, credibility, and ease and accuracy of comprehension.

SPC 3680 Rhetorical Criticism.
Credits: 3
Critical analyses of rhetorical elements and processes in both oratorical and nonoratorical forms.

SPC 4631 Language and Image in Political Communication.
Credits: 3
A study of symbolic sources of rhetorical effectiveness as employed in various genres of communication in political contexts.

GRADUATE COURSES

Courses offered through the Program in Linguistics with the prefix LIN may also be used as part of a graduate program in English.

American Literature

AML 6017 Studies in American Literature Before 1900.
Credits: 3

AML 6027 Studies in 20th Century American Literature.
Credits: 3

Creative Writing

CRW 6130 Fiction Writing.
Credits: 3

CRW 6331 Verse Writing.
Credits: 3

CRW 6531 The Writing of Children's Literature.
Credits: 3

English—General

ENG 5933 Special Study in English.
Credits: 1 to 5

ENG 6009 Bibliography and Methods of Research.
Credits: 3

ENG 6018 Studies in Literary Criticism.
Credits: 3

ENG 6137 The Language of Film.
Credits: 3

ENG 6138 Studies in the Movies.
Credits: 3

ENG 6718 Stylistics.
Credits: 3

ENG 6906 Individual Work.
Credits: 1 to 3

ENG 6910 Supervised Research.
Credits: 1 to 5††

ENG 6971 Research for Master's Thesis.
Credits: 1 to 15††

ENG 7939 Seminar for Variable Topics.
Credits: 1 to 5

ENG 7980 Research for Doctoral Dissertation.
Credits: 1 to 15††

††Grading is on S-U basis only.

ENTOMOLOGY AND NEMATOLOGY

English Literature

ENL 6206 Studies in Old English.
Credits: 3

ENL 6216 Studies in Middle English.
Credits: 3

ENL 6226 Studies in Renaissance Literature.
Credits: 3

ENL 6236 Studies in Restoration and 18th Century Literature.
Credits: 3

ENL 6246 Studies in Romantic Literature.
Credits: 3

ENL 6256 Victorian Literature.
Credits: 3

ENL 6276 Studies in 20th Century British Literature.
Credits: 3

ENL 6335 Studies in Shakespeare.
Credits: 3

Language Arts and English Education

LAE 6379 Teaching of Business and Technical Writing.
Credits: 3

LAE 6940 Supervised Teaching.
Credits: 1 to 5††

LAE 6947 Practicum in the Teaching of College English.
Credits: 3

Linguistics

LIN 6137 Studies in English Linguistics.
Credits: 3

LIN 7938 Seminar in Linguistics.
Credits: 3

Literatures

LIT 5186 Studies in Irish Literature.
Credits: 3

LIT 6017 Studies in Fiction.
Credits: 3

LIT 6037 Studies in Verse.
Credits: 3

LIT 6047 Studies in Drama.
Credits: 3

LIT 6309 Communications and Popular Culture.
Credits: 3

LIT 6327 Studies in Folklore.
Credits: 3

LIT 6934 Variable Topics.
Credits: 1 to 5

Reading Education

RED 6380 Principles of Community College and Adult Reading Instruction.
Credits: 3

RED 6480 Laboratory in Community College and Adult Reading Instruction.
Credits: 3

Speech Communication

SPC 6239 Studies in Rhetorical Theory.
Credits: 3

††Grading is on S-U basis only.

ENTOMOLOGY AND NEMATOLOGY

INSTRUCTIONAL STAFF 1981-82

D.L. Shankland, Chairman; Ali, A.; Ashley, T.R.; Bailey, D.L.; Baranowski, R.M.; Barfield, C.S.; Berner, L.; Brooks, R.F.; Buren, W.F.; Butler, J.F.; Calkins, C.O.; Callahan, P.S.; Carlson, D.A.; Chambers, D.L.; Clark, E.W.; Cromroy, H.L.; Dame, D.A.; Dickson, D.W.; Dunn, R.A.; Fairchild, A.G.B.; Fatzinger, C.W.; Ferkovich, S.M.; Focks, D.A.; Foltz, J.L.; Frank, J.H.; Greany, P.D.; Habeck, D.H.; Hagstrum, D.W.; Hall, D.W.; Hamon, A.B.; Herzog, D.C.; Huettel, M.D.; Johnson, F.A.; Kaplan, D.T.; Kerr, S.H.; Koehler, P.G.; Leppla, N.C.; Lloyd, J.E.; Lofgren, C.S.; McCoy, C.W.; McLaughlin, J.R.; McSorley, R.; Matheny, E.L.; Mayer, M.S.; Minnick, D.R.; Mitchell, E.R.; Morgan, P.B.; Nation, J.L.; Nayar, J.K.; Nigg, H.N.; Oberlander, H.; Overman, A.J.; Patterson, R.S.; Perry, V.G.; Price, J.F.; Reinert, J.A.; Reinert, J.F.; Rhoades, H.L.; Rich, J.R.; Roberts, R.H.; Robinson, F.A.; Sailer, R.I.; Schuster, D.J.; Seawright, J.A.; Sharp, J.L.; Short, D.E.; Silhacek, D.L.; Slansky, F., Jr.; Smart, G.C., Jr.; Smittle, B.J.; Sprenkel, R.K.; Stange, L.A.; Stimac, J.L.; Stokes, D.E.; Strayer, J.R.; Tarjan, A.C.; Tsai, J.H.; Tumlinson, J.H., III; Vick, K.W.; Waddill, V.H.; Waites, R.E.; Walker, T.J.; Weems, H.V., Jr.; Weidhaas, D.E.; Westfall, M.J., Jr.; Whitcomb, W.H.; Wilkinson, R.C., Jr.; Williams, D.F.; Wiseman, B.R.; Wojcik, D.P.; Woodruff, R.E.; Workman, R.B.; Young, D.G.; Yu, S.S.J.

ENY 3003 Insect Natural History. SS.
Credits: 2
Primarily concerned with insects in their natural environment. This course is designed for non-science majors.

ENY 3004 General Entomology. S.
Credits: 3; Prereq: BSC 2010, BSC 2011 or equivalent.
General insect biology with an evolutionary perspective. The labs are devoted almost exclusively to learning major Orders by sight, and the identification of Families with the "Peterson" field guide. Discussion, visual aids, field trips.

ENY 3005 Principles of Entomology. F, S, SS.
Credits: 2; Required Coreq: ENY 3006 or one of the 35 series. Laboratory Course.
An introduction to Entomology including structure, development, classification and habits. Various approaches to insect control are explored.

ENY 3006L Principles of Entomology Laboratory. F, S, SS.
Credits: 1; Prereq. or Coreq: ENY 3005.
A laboratory study of insect structure, classification, behavior and control.

ENY 3511 Fruit Insects. SS.
Credits: 1; Prereq. or Coreq: ENY 3005.
A laboratory oriented study of the identification, injury, life history and control of citrus and other fruit and nut insect pests.

ENY 3513 Vegetable Insects. SS.
Credits: 1; Prereq. or Coreq: ENY 3005.
A laboratory oriented study of the identification, injury, life histories and control of the important pests of Florida vegetable crops.

ENY 3515 Ornamental and Turf Insects. SS.
Credits: 1; Prereq. or Coreq: ENY 3005.
A laboratory oriented study of the identification, injury, life histories and control of the important pests of ornamental plants and turf.

ENY 3521 Field Crop Insects. S.
Credits: 2; Prereq. or Coreq: ENY 3005.
A laboratory oriented study of the identification, injury, life history and control of important Florida field crop insect pests.

ENY 3531 Animal Insects. F.
Credits: 1; Prereq. or Coreq: ENY 3005.
A laboratory oriented study of the identification, importance, life histories and control of the important insect pests of domesticated animals.

ENY 3541 Forest Insects. S.
Credits: 3
The identification, injury, life history and control of important forest and shade tree insect pests.

ENY 3551 Household Insects. S.
Credits: 1; Prereq. or Coreq: ENY 3005.
A laboratory oriented study of the major insect pests encountered in households and structures including their life histories and control.

ENY 3701 Principles of Nematology. F, SS.
Credits: 3; Prereq: ZOO 2013, or equivalent.
An introduction to Nematology including studies of morphology, life histories, and control of the major nematode parasites of plants. Also, studies of the bionomics of certain soil nematodes and nematode parasites of vertebrates and arthropods.

ENY 3931 Undergraduate Seminar. F.
Credits: 1
Preparation and presentation of papers on approved subjects in Entomology and Nematology. May be repeated to a maximum of 3 credits.

ENY 4161 Insect Identification. S.
Credits: 3; Prereq: ENY 3004, ENY 3005, or equivalent.
Identification of immature and adult insects of all major families.

ENY 4201 Insect Ecology, Behavior, and Systematics. F.
Credits: 3; Prereq: ENY 3004, ENY 3005, or permission of instructor.
The environmental relations of insects with an evolutionary perspective; basic concepts in evolutionary ecology, population genetics, behavior, and systematic entomology, including the essentials of taxonomy and nomenclature, collecting, and museum technique.

ENY 4353 Insect Physiology and Morphology. S.
Credits: 3; Prereq: ENY 3004, ENY 3005, BCH 3023 or equivalent.
The external and internal morphology of insects and the physiology of cells, tissues, organs and systems.

ENY 4571C Apiculture. S.
Credits: 3; Prereq: ENY 3004, ENY 3005 or permission of the instructor.
The organization of a bee colony, life processes, races of bees, manipulation, value of colonies, nectar and pollen sources, pollination value, diseases, selection of apiary sites, economic importance of the industry, equipment and marketing of products.

ENY 4660C Medical & Veterinary Entomology. F.
Credits: 3; Prereq: ENY 3004 or ENY 3005 or permission of instructor.
The bionomics, classification, distribution, disease relationship, structure, and control of arthropods affecting man and domestic animals. Also recommended for students in Environmental Engineering, Parasitology and Medicine.

ENY 4905 Problems in Entomology. F, S, SS.
Credits: 1 to 5; Prereq: ENY 3004 or ENY 3005 and the basic course in selected field of specialization.
Problems in any field of specialization in Entomology and Nematology. May be repeated for a total of five credits.

ENY 4941 Full Time Practical Work Experience in Entomology and Nematology. F, S, SS.
Credits: 1 to 4††; Prereq: Prior arrangement with adviser and approval of Department Chairman and Dean.
Practical work must be a new experience and related to the field of study.

GRADUATE COURSES

ENY 5561 Tropical Entomology. F.
Credits: 3

ENY 5707C Plant Nematology. F.
Credits: 3

ENY 6202C Quantitative Approaches to Insect Ecology. F.
Credits: 3

ENY 6203 Insect Ecology. S.
Credits: 4

ENY 6241 Biological Control of Insects. S.
Credits: 4

ENY 6261 Insect Resistance to Crop Plants 1. S.
Credits: 3

ENY 6262 Insect Resistance to Crop Plants 2. S.
Credits: 2

ENY 6321 Comparative Anatomy of the Hexapoda. F.
Credits: 3

ENY 6401C Insect Physiology. F.
Credits: 4

ENY 6451 Insect Behavior. S.
Credits: 2

ENY 6502 Aquatic Insects. SS.
Credits: 4

ENY 6591 Mosquitoes. S.
Credits: 4

ENY 6601 Growth and Development in Insects. S.
Credits: 3

ENY 6611 Immature Insects. F.
Credits: 4

ENY 6651 Insect Toxicology. S.
Credits: 3

ENY 6665C Advanced Medical and Veterinary Entomology I. F.
Credits: 4

ENY 6666 Advanced Medical and Veterinary Entomology II. S.
Credits: 4

ENY 6708 Field Plant Nematology. S.
Credits: 1

ENY 6713C Nematode Morphology, Anatomy and Taxonomy. F.
Credits: 4

ENY 6723 Advanced Plant Nematology. S.
Credits: 3

ENY 6780C Marine Nematology. S.
Credits: 4

ENY 6810 Information Techniques in Entomology. F.
Credits: 1

ENY 6821 Insect Pathology. SS.
Credits: 4

ENY 6822C Microbial Control of Insects. SS.
Credits: 4

ENY 6905 Problems in Entomology and Nematology. F, S, SS.
Credits: 1 to 4

ENY 6910 Supervised Research. F, S, SS.
Credits: 1 to 5††

ENY 6932 Special Topics in Entomology and Nematology. F, S, SS.
Credits: 1 to 2††

ENY 6934 Selected Studies in Entomology and Nematology. F, S, SS.
Credits: 1 to 4

ENY 6940 Supervised Teaching. F, S, SS.
Credits: 1 to 5††

ENY 6971 Master's Research. F, S, SS.
Credits: 1 to 15††

ENY 6986 Research Techniques in Entomology. S.
Credits: 4

ENY 7980 Doctoral Research. F, S, SS.
Credits: 1 to 15††

ENVIRONMENTAL ENGINEERING SCIENCES
College of Engineering

INSTRUCTIONAL STAFF 1981-82

Bolch, W.E., Acting Chairman; Allen, E.R.; Arbuckle, W.B.;Best, G.R.; Bevis, H.A.; Bitton, G.; Crisman, T.L.; Dunavant, B.G.; Ewel, K.C.; Heaney, J.P.; Huber, W.C.; Koopman, B.L.; Lundgren, D.A.; McCreary, J.J.; Montague, C.L.; Odum, H.T.; Pyatt, E.E.; Roessler, C.E.; Singley, J.E.; Zoltek, J., Jr.

Engineering: Hydrology
GRADUATE COURSES

ECI 6630 Surface Hydrology
Credits: 3

ECI 6631 Operational Hydrology
Credits: 4

Environmental Engineering Sciences

EES 2001 Concepts of Environmental Engineering Sciences. F, S.
Credits: 1
Discussions of current environmental problems and their solutions. Intended as an orientation course for future ENV majors. Both EES 2001 and ENV 3003 cannot be taken for credit.

EES 3008 Energy and Environment. F.
Credits: 3
Consideration of the energy basis for man and nature including principles of energy analysis, systems ecology, and public policy.

EES 3020 Computational Methods in Environmental Engineering Sciences. F, S.
Credits: 2; Prereq: COP 3212 and MAP 3302 or EGM 3311.
Environmental Engineering Sciences applications of numerical and modeling techniques using analog computers, digital computers, mini-computers, and hand calculators.

EES 4004 Environmental Engineering Sciences. F, S.
Credits: 3; Prereq: 4EG standing in the Department of Environmental Engineering Sciences or consent of instructor.
The application of engineering and scientific principles to the management of the environment as a closed system. Case studies of water, air and land pollution. Economic and ecological consideration.

EES 4035 Environmental Instrumentation. F, S.
Credits: 2; Prereq.: EEL 3003.
Basic instrumentation and instrumental techniques for the measurement of environmental parameters and pollutants.

EES 4101C Environmental Microbiology. F, S.
Credits: 3
General concepts of microbiology with emphasis on the role of microorganisms in the polluted environment and in pollution technology.

EES 4241C Introduction to Water Analysis. F, S.
Credits: 3; Prereq: Three quarters of general chemistry.
Basic procedures of chemical analysis applied to natural and wastewaters, including sampling and interpretation of water quality.

EES 4401 Public Health Engineering. S.
Credits: 3
Application of engineering principles to protect public health. Areas covered include: water supply, waste treatment, air pollution, radiological health, occupational health, milk and food sanitation, vector control, solid wastes, and housing hygiene.

GRADUATE COURSES

EES 5007C Ecological and General Systems.
Credits: 4

EES 5105 Environmental Biology.
Credits: 3

EES 5245 Water and Wastewater Analysis.
Credits: 3

EES 5306 Energy Analysis and Ecological Engineering.
Credits: 3

EES 6006 Environmental Toxicology.
Credits: 3

EES 6036 Environmental Instrumentation.
Credits: 2

EES 6106 Environmental Microbiology.
Credits: 3

EES 6136 Aquatic Autotrophs.
Credits: 3

EES 6166 Aquatic Heterotrophs.
Credits: 3

EES 6207 Environmental Chemistry.
Credits: 3

EES 6208 Principles of Water Chemistry I.
Credits: 2

EES 6209 Principles of Water Chemistry II.
Credits: 2

EES 6246 Advanced Water Analysis.
Credits: 3

EES 6308C Wetland Ecology.
Credits: 3

EES 6356 Estuarine Systems.
Credits: 3

EES 6506 Occupational Health.
Credits: 3

EES 6936 Water Science Seminar.
Credits: 1 to 4; Maximum of 6 credits.

Engineering: Environmental

ENV 3003 Environmental Quality and Man. F, S, SS.
Credits: 3
Interaction of technological and industrial man with earth's resources and the resultant effect on environmental quality. Identification of air, water, and land pollution causes, effects, and controls. Concepts of environmental management and the socio-economic and institutional factors influencing environmental quality. Intended for non-ENV majors. Both ENU 3003 and EES 2001 cannot be taken for credit.

ENV 3930 Undergraduate Seminar. F, S.
Credits: 1††
Intended for undergraduate students majoring in Environmental Engineering Sciences. Talks, lectures, and discussions on selected topics in Environmental Engineering Sciences. May be repeated with change in content up to a maximum of 3 credits.

ENV 4021C Basic Concepts of Water and Wastewater Treatment. F, S.
Credits: 4; Prereq: ENV 4514 and EES 4241 or consent of instructor.
An introduction to the basic physical, chemical and biological concepts involved in the treatment of water and wastewater.

††Grading is on S-U basis only.

ENV 4104 Elements of Atmospheric Pollution. F, S.
Credits: 3
The air pollution problem, causes, sources, effects. Chemical and physical reactions. Engineering, political and economic factors in its control.

ENV 4201 Introduction to Radiological Health. F, S.
Credits: 3
A beginning course covering radiation sources, effects and protection guides. Radiation exposure and protection in medical, occupational and natural environments.

ENV 4241 Fundamentals of Radiation Protection. S.
Credits: 3; Prereq: ENU 4605 or equivalent or consent of instructor.
Radiation sources, uses, and effects on humans; examination of radiation protection literature and philosophy; practical radiation protection methods and techniques; review of radiation exposure standards, regulations, legislation.

ENV 4351 Solid Waste Management. F, S.
Credits: 3
Generation of solid and hazardous wastes. Collection methods, equipment and costs. Disposal methods and costs.

ENV 4404C Water Supply & Wastewater Removal. F, S.
Credits: 3
Source of supply quantity and quality requirements, collection, transmission and distribution of water. Collection, transportation and disposal of sewage and stormwater. Design of collection and distribution systems.

ENV 4408 Water Treatment Process Design. S.
Credits: 4; Prereq: CHM 2047C or CHM 2043C or consent of instructor.
A theoretical and practical study of the examination and treatment of water.

ENV 4431 Sewerage System Design. F.
Credits: 3; Prereq: ENV 4404, ENV 4514, and ENV 4021.
Design of gravity wastewater collection systems, pumping facilities, force mains, chemical, physical, and biological treatment processes.

ENV 4432 Potable Water System Design. F.
Credits: 3; Prereq: ENV 4404, ENV 4514, ENV 4021, and ENV 4408.
Layout of a municipal water distribution system. Design of pumping facilities, storage, chemical water treatment facilities.

ENV 4514C Treatment of Water and Wastewater. S.
Credits: 3
An introduction to the basic physical, chemical and biological concepts involved in the treatment of water and wastewater.

ENV 4905 Individual Studies in Environmental Engineering Sciences. F, S, SS.
Credits: 1 to 4; Prereq: Consent of instructor.
Selected problems or projects in the student's major field of study. May be repeated with change in content up to a maximum of 12 credits.

ENV 4932 Special Problems in Environmental Engineering Sciences. F, S, SS.
Credits: 1 to 4
May be repeated with change in content up to a maximum of 12 credits.

ENV 4949 Co-op Work Experience. F, S, SS.
Credits: 1††; Prereq: 4EG classification.
One term industrial employment including extra work according to a pre-approved outline. Practical engineering work under industrial supervisor, as set forth in the College of Engineering Regulations.

††Grading is on S-U basis only.

GRADUATE COURSES

ENV 5005 Environmental Health.
Credits: 3

ENV 5126 Introduction to Air Pollution.
Credits: 3

ENV 5206 Survey of Radiological Health.
Credits: 3

ENV 5306 Municipal Refuse Disposal.
Credits: 3

ENV 5517C Treatment of Wastewater.
Credits: 4

ENV 5518C Industrial Waste Treatment.
Credits: 3

ENV 5930 Special Topics in Environmental Engineering I.
Credits: 1 to 4; Maximum of 8 credits.

ENV 6006 Graduate Environmental Engineering Seminar.
Credits: 1 to 2††

ENV 6050 Pollutant Transport.
Credits: 3

ENV 6115 Air Pollution Control Design.
Credits: 3

ENV 6116 Air Pollution Sampling and Analysis.
Credits: 3

ENV 6117 Environmental Meteorology.
Credits: 3

ENV 6118 Atmospheric Dispersion Modeling.
Credits: 3

ENV 6130 Aerosol Mechanics.
Credits: 3

ENV 6211 Health Physics.
Credits: 3

ENV 6216 Radioactive Wastes.
Credits: 3

ENV 6236 Radiological Techniques.
Credits: 4

ENV 6409 Advanced Water Treatment Process Design.
Credits: 3

ENV 6437 Advanced Sewage System Design.
Credits: 3

ENV 6438 Advanced Potable Water System Design.
Credits: 3

ENV 6510 Water and Wastewater Process I
Credits: 3

ENV 6511 Water and Wastewater Process II
Credits: 3

ENV 6516 Advanced Waste Treatment Operations.
Credits: 3

ENV 6606 Environmental Resource Systems.
Credits: 3

ENV 6656 Urban Environmental Problems.
Credits: 3

ENV 6666 Water Quality Management.
Credits: 3

ENV 6905 Individual Work.
Credits: 1 to 4; Maximum of 8 credits.

ENV 6910 Supervised Research.
Credits: 1 to 5††

ENV 6916 Non-Thesis Project.
Credits: 1 to 2; Maximum of 2 credits.

ENV 6932 Special Problems in Environmental Engineering.
Credits: 1 to 4; Maximum of 8 credits.

ENV 6940 Supervised Teaching.
Credits: 1 to 5††

ENV 6971 Master's Research.
Credits: 1 to 15††

ENV 7980 Doctoral Research.
Credits: 1 to 15††

FINANCE AND INSURANCE
College of Business Administration

INSTRUCTIONAL STAFF 1981-82

Heggestad, A.A., Chairman; Brigham, E.F.; Chiang, R.; Crum, R.L.; Finkelstein, J.; Howard, W.H.; Levy, H.,; McCollough, W.A.; Manaster, S.; Matthews, C.A.; Nye, D.J.; Pettway, R.H.; Radcliffe, R.C.; Tapley, T.C.

FIN 3105 Investments for Individuals.
Credits: 3
Designed for the non-Business Administration student, this course deals with the principal investment problems the individual faces. Cannot be used for credit for BSBA degree.

FIN 3233 Monetary Economics.
Credits: 3; Prereq: ECO 4205 or ECO 3251.
Special attention is given to the integration of monetary and general economic analyses. Post-Keynesian and post-monetarist economics. The formation of expectations, the business cycle, the open economy, and national economic policies directed toward the control of the overall behavior of the economy.

FIN 3303 Financial Institutions.
Credits: 3
A study of the operation of financial institutions, interrelationship between the institutions and their roles in the economic process. Cannot be used for credit for BSBA degree.

FIN 3403 Business Finance.
Credits: 4; Prereq: ACC 2001.
The acquisition and management of funds by business. Students desiring a major in Finance must achieve a grade of C or better in this course.

FIN 4244 Money and Capital Markets.
Credits: 3; Prereq: ECO 3251, FIN 3403.
Financial markets; their role in the macroeconomic framework; the flow of funds and the determinants of their market price; the nature of the different markets and their role in the firm's financial decisions.

FIN 4313 Financial Management of Financial Institutions.
Credits: 3; Prereq: FIN 4244.
A study of managerial finance in the setting of a financial institution. The unique problems of the several types of institutions as defined by regulation and practice.

FIN 4414 Business Finance Topics.
Credits: 4; Prereq: FIN 3403.
An intensive examination of the major topics in Business Finance such as risk and return, capital budgeting, and capital structure. The course will include both case work and problem analysis.

FIN 4504 Investments.
Credits: 3; Prereq: FIN 3403.
Nature of investments; investment policies; analysis of securities; the mechanics and mathematics of security purchases; factors influencing security prices, and the nature of the New York Stock Exchange.

FIN 4514 Investment Analysis.
Credits: 3; Prereq: FIN 4504.
An analysis of the underlying theory of investments and its utilization by the individual investor or portfolio manager. Topics include capital market theory, portfolio theory and management, option contracts, and interest rate futures.

FIN 4604 International Finance.
Credits: 3; Prereq: FIN 4244.
A study of financial problems encountered by firms operating in the international environment.

FIN 4905 Independent Research
Credits: 3; Prereq: Senior standing and previous work in the area selected for research. Admission is by the consent of the department. A written report or reports will be required.

FIN 4934 Special Topics.
Credits: 1 to 3; Prereq: permission of department.
Course of variable content providing an opportunity for study in depth of topics not offered in other courses and of topics of special current significance. May be repeated with a change in content up to a maximum of 6 credits.

GRADUATE COURSES

For admission to graduate courses, the student must have been admitted to the Graduate School and normally should have had undergraduate courses in fields pertinent to the graduate courses selected; or where necessary, special arrangements may be made with the approval of the Department chairman.

Though no graduate major may be completed without adequate course work on the 6000 or higher level, certain undergraduate courses in finance and insurance are available for graduate credit as part of a candidate's major. These are FIN 4135 Group Insurance and FIN 4805 Estates, Trusts and Insurance.

FIN 5354 Financial Markets and Institutions.
Credits: 3

FIN 5405 Business Financial Management.
Credits: 3

FIN 5425 Corporation Finance.
Credits: 3

FIN 5525 Security Markets and Pricing.
Credits: 3

FIN 6246 Money and Capital Markets.
Credits: 4

FIN 6446 Introduction to Financial Theory.
Credits: 4

FIN 6456 Quantitative Analysis of Financial Decisions.
Credits: 4

FIN 6626 International Finance: Monetary Systems.
Credits: 4

FIN 6816 Seminar in Investments.
Credits: 4

FIN 6826 Problems in Commercial Banking.
Credits: 4; maximum 7.

FIN 6905 Individual Work in Finance.
Credits: 1 to 4

FIN 6940 Supervised Teaching.
Credits: 1 to 5††

FIN 6971 Master's Research.
Credits: 1 to 15††

FIN 7808 Theory of Finance I.
Credits: 4

FIN 7809 Theory of Finance II.
Credits: 4

FIN 7810 Theory of Finance III.
Credits: 4

FIN 7938 Finance Research Workshop.
Credits: 1 to 4; maximum 7.

FIN 7980 Doctoral Research.
Credits: 1 to 15††

Risk Management & Insurance

RMI 3015 Risk and Insurance. F, S, SS.
Credits: 3
Identification of various types of risk; principles underlying selection of appropriate means of handling risks; analysis of insurance as a principle means; organization and operation of insurance companies.

RMI 3215 Property Insurance.
Credits: 3; Offered by correspondence only.
A continuation of RMI 3217 dealing with casualty insurance, bonds and agency managements.

RMI 3217 Property Insurance—Fire and Marine Insurance.
Credits: 3; Offered by correspondence only.
The broad, basic principles underlying Fire and Marine Insurance.

RMI 4120 Health Insurance S.
Credits: 3
Public and private mechanisms for meeting financial risks of sickness and injury.

RMI 4135 Group Insurance and Pension Plans. S.
Credits: 3; Prereq: RMI 3015 or RMI 3105.
Group life and health insurance; pension and profit sharing plans.

RMI 4305 Risk Management. S.
Credits: 3; Prereq: RMI 3015 or consent of instructor.
A course in applied risk theory. Topics include estimation of risk, determination of methods of handling risk, optimal levels of self insurance and deductibles, and estimation of necessary amounts of reserves.

RMI 4805 Estates, Trusts and Insurance.
Credits: 3; Prereq: RMI 3015 or consent of instructor.
Estate planning; coordination of life insurance with other assets; living and testamentary trusts; life insurance trusts; wills; guardianships; and tax aspects of estate planning.

RMI 4905 Independent Research. F, S, SS.
Credits: 1 to 3; Prereq: Senior standing and previous work in the area selected for research.
Admission is by the consent of the department. A written report or reports will be required.

GRADUATE COURSES

RMI 6195 Seminar in Life Insurance.
Credits: 3

RMI 6296 Seminar in Property and Liability Insurance.
Credits: 3

RMI 6910 Supervised Research.
Credits: 1 to 5††

RMI 6936 Problems in Risk Management.
Credits: 3

FINE ARTS
College of Fine Arts

HUM 2510 Introduction to the Fine Arts. F, S.
Credits: 3
An introduction to the disciplines, activities and purposes of the Fine Arts.

FOOD AND RESOURCE ECONOMICS
College of Agriculture

INSTRUCTIONAL STAFF 1981-82

Polopolus, L., Chairman; Alvarez, J.; Andrew, C.O.; Bielock, R.; Boggess, W.G.; Carriker, R.R.; Cato, I.C.; Clark, H.B.; Clouser, R.; Colette, W.A.; Comer, D.; Covey, C.D.; Davis, C.G.; Dow, J.K.; Drummond, H.E.; Eastwood, R.A.; Ellerbock, M.; Emerson, R.D.; Fairchild, G.F.; Gladwin, C.R.; Gordon, J.R.; Gunter, D.L.; Hildebrand, P.E.; Holt, J.; Hooks, R.C.; Kepner, K.W.; Kiker, C.F.; Kilmer, R.L.; Langham, M.R.; Lee, J.Y.; Lynne, G.D.; Mathis, W.K.; McPherson, W.W.; Milon, J.W.; Mulkey, W.D.; Pagoulatos, E.R.; Prochaska, F.J.; Reynolds, J.E.; Simpson, J.R.; Shonkwiler, J.S.; Smith, C.N.; Spreen, T.H.; Stegelin, F.E.; Strain, J.R.; Tilley, D.S.; van Blokland, P.J.; Van Sickle, J.J.; Wall, G.B.; Ward, R.W.; Wershow, J.S.; Zepp, G.A.

Agricultural Economics & Business

AEB 3103 Principles of Food and Resource Economics. F, S, SS.
Credits: 4
An introduction to the field of food and resource economics; principles of economics as applied to agriculture; economic problems of the agricultural industry and the individual farmer.

AEB 3111 Computers and Linear Programming for Agriculture. F, S.
Credits: 2
A basic understanding of the way computers operate and how they can be used. The use of computers is taught in connection with solving linear programming problems using standard routines. Linear programming problems deal with least cost ration formulation and maximum profit farm organization.

AEB 3123 Law Applied to Agriculture. F, S.
Credits: 3
Legal aspects of agricultural rights, responsibilities, and problems. Topics include agricultural estate and income taxation, zoning and land use planning, agricultural labor and consumer protection.

AEB 3133 Farm Firm Management. F, S, SS.
Credits: 3; Prereq: AEB 3103.
Introduction to management principles. Application of economic principles, budgeting techniques and principles of strategy in agricultural firm management in the United States, particularly Florida. Emphasis is given to the financial and tax management strategies and the requirements imposed on agricultural management by local, state, and federal government regulatory agencies.

AEB 3133L Farm Firm Management Laboratory. F, S, SS.
Credits: 1; Prereq: AEB 3103; Coreq: AEB 3133.
Practical laboratory to accompany AEB 3133. Emphasis on analysis of typical farm firm resource allocation, investment decision and planning problems.

AEB 3300 Agricultural Marketing. F, S, SS.
Credits: 3; Prereq: AEB 3103.
Basic principles of marketing emphasizing the value added to commodities from farms to consumers. The economic organization and operation of the food and fiber sector of the U.S. economy. Elementary price analysis and the marketing system for agricultural inputs and outputs. One field trip usually required.

AEB 3306 Agricultural Commodity Marketing. F.
Credits: 2
Basic elements and principles of agricultural commodity marketing, including special focus upon marketing problems and issues affecting the livestock, dairy, poultry, citrus, vegetable and ornamental industries. Student participation in a computerized futures trading game required.

AEB 3413 Economics of Environmental Quality. F.
Credits: 3; Prereq: AEB 3103 or equivalent.
The environmental quality problem in relation to current technology, economic principles, legal and political constraints, and institutions. The applicability of these principles as related to specific problems: water and air pollution, agricultural insecticides, noise, congestion, aesthetic values, recreation.

††Grading is on S-U basis only.

Descriptions

FOOD AND RESOURCE ECONOMICS

AEB 3503 Computers and Data Analysis for Agriculture. F, S, SS.
Credits: 2; Prereq: college algebra.
Introduction to data analysis. Topics include probability, analysis of variance, regression and budgeting. Computer techniques using SAS are utilized in analyzing data and presenting results.

AEB 4124 Legal Issues In Agriculture. S.
Credits: 1 to 3; Prereq: AEB 3123 or consent of instructor.
Intensive examination of problems and trends in agricultural taxation, including Federal estate and gift tax, ad valorem taxation and state and local taxation. Also covers selected topics in environmental law as related to agriculture and agribusiness including water, waste disposal, and insecticide and herbicide activities.

AEB 4141 Agricultural Finance and Rural Appraisal. F.
Credits: 3; Prereq: AEB 3133.
An introduction to the sources and uses of finance in Agriculture. Topics include time and money, financial management; investment appraisal; financial trends and land appraisal.

AEB 4152 Farm Business Analysis. F.
Credits: 3; Prereq: AEB 3133 and consent of instructor.
Application of business, financial and economic principles in the successful management of a farm. Decision making under uncertainty on the farm, constrained by individual farm and farmer objectives. Analysis of farms using the farm game techniques. Includes visits with agribusinesses, farmers and farm management extension staff.

AEB 4164 Management of Farms in Tropical Areas. SS.
Credits: 3; Prereq: AEB 3103
To provide some understanding of decision making, farming techniques and farmers' objectives on farms in developing countries. The course also covers some developing country socio-economic characteristics and attempts to involve economic principles, risk management and planning within their characteristics. Should be substituted for AEB 3133 for foreign students.

AEB 4224 Public Policy in Agriculture. F, S.
Credits: 3
A history of farmer attempts and accomplishments through organization and legislation to improve the economic and social status of agriculture. The basic problems and concepts involved in developing and carrying out agricultural policy. Evaluation of present legislative programs and policies affecting the farmer.

AEB 4314 Terminal Markets and Commodity Exchanges. S.
Credits: 1; Prereq: Consent of Instructor.
Terminal market organization and facilities for agricultural products, including the commodity exchanges. Visitation and inspection of firms and facilities in large terminal markets in the East or Midwest will entail a field trip of eight to ten days. A fee of $80.00 for a laboratory field trip is required. An additional sum may be required at the time the trip is made. Participation in this course is contingent upon notifying the instructor of intent not later than 20 days before the beginning of the trip.

AEB 4324 Production Decisions of Agricultural Firms. F, S.
Credits: 3; Prereq: AEB 4511
Quantitative approach is used to study production decisions confronted by the management in agricultural firms.

AEB 4334 Agricultural Price Analysis and Consumer Behavior. F, S.
Credits: 3; prereq: AEB 3103, AEB 4511 and ECO 3100 or equivalent.
Quantitative measurement of factors affecting agricultural prices; seasonal and cyclical fluctuations; index measures of price and quantity variables; theory and application of consumer behavior principles.

AEB 4342 Food Distribution Management. S.
Credits: 4; Prereq: AEB 3300.
The principles and practices of effective food distribution management from the food processor through to the food retailer are discussed. Emphasis is placed upon the important management decision processes in the food distribution system. Special consideration is given to management of food wholesaling and retailing firms. The student will observe actual wholesale warehouse operations and manage a supermarket via computer simulation. Major functional business areas discussed include buying, receiving, pricing, merchandising, advertising, financial management, and human resource management. Food distribution industry trends and their implications will also be considered.

AEB 4392 Agricultural Cooperatives. S.
Credits: 1; Prereq: AEB 3103.
Principles, objectives, structure and management of cooperative organizations. Role of cooperatives in the agricultural sector.

AEB 4421 Agricultural Labor Economics. S.
Credits: 2; Prereq: AEB 3103 or ECO 2023.
Problems and characteristics of agricultural employers and employees. Operation of the labor market. Determinants of productivity; impact of mechanization and technology; income and stability of employment; public policy; wages, benefits, and the work place; regulations; organization, conflict, and collective bargaining.

AEB 4434 Land and Water Economics. S.
Credits: 3; Prereq: AEB 3103.
Principles governing the use of land and water in Florida with emphasis on supply, demand, allocation, valuation, conversation location, development, property rights, externalities, planning and taxation.

AEB 4444 Regional Economics and Policy Analysis. S.
Credits: 3
Theory and practice of community and regional policy analysis. Theories of regional growth and policy implications, techniques of regional analysis, and programs to influence spatial distribution of economic activity.

AEB 4511 Quantitative Analysis in Food and Resource Economics. F, S.
Credits: 3; Prereq: Calculus and AEB 3103.
Application of calculus and matrix algebra to topics in food and resource economics.

AEB 4672 International and Interregional Trade in Agriculture. S.
Credits: 2; Prereq: AEB 3103, equivalent or consent of instructor.
Behavior of economic forces associated with trade in food and agricultural products between Florida and other regions in the U.S. and between countries. Economic principles and analytical techniques applied to the study of supply, demand and prices for Florida and U.S. imports and exports of agricultural commodities. Consideration of the competitive position of Florida agriculture is state, national, and foreign markets.

AEB 4726 Income and Employment of Rural People. S.
Credits: 3; Prereq: AEB 3103 or ECO 3100 and ECO 3251.
Effects of economic, technical and institutional conditions upon employment and incomes of rural people. Analysis of poverty and poverty programs. The human agent and group decision-making in rural economic development.

AEB 4905 Special Problems in Food and Resource Economics. F, S, SS.
Credits: 1 to 3; Prereq: Consent of instructor.
Individual study in selected problem areas. Aspects of problems of interest to the student and agreeable to the instructor. May be repeated with change of content up to a maximum of 6 credits.

AEB 4931 Special Topics in Food and Resource Economics. F, S, SS.
Credits: 1 to 3; Prereq: Consent of instructor.
Lectures, conferences or laboratory covering specially selected topics in food and resource economics. May be repeated with change of content up to a maximum of 6 credits.

AEB 4935 Food and Resource Economics Seminar. F, S.
Credits: 1
Lectures and discussions on current problems and special areas of interest in Food and Resource Economics. Students make reports on approved topics.

AEB 4941 Full Time Practical Work Experience in Food and Resource Economics. F, S, SS.
Credits: 1 to 3††; Prereq: Prior arrangement with advisor, approval of Department Chairman and Dean.
Practical work must be a new experience and related to the field of study.

GRADUATE COURSES
Food and Resource Economics

AEB 5612 Foreign Agricultural Development Planning.
Credits: 3

AEB 6145 Agricultural Finance.
Credits: 3

AEB 6182 Intermediate Agricultural Production Economics.
Credits: 3

AEB 6184 Economics of Agricultural Production I.
Credits: 3

AEB 6186 Economics of Agricultural Production II.
Credits: 3

AEB 6252 Foundations of Agricultural Policies.
Credits: 3

AEB 6255 Non-Market Goods and Public Decision Making.
Credits: 2

AEB 6263 Agricultural Policies and Programs in the U.S.
Credits: 2

AEB 6363 Intermediate Consumption Economics and Agricultural Marketing.
Credits: 3

AEB 6373 Consumption and Demand.
Credits: 3

AEB 6383 Industrial Organization of Agricultural Markets.
Credits: 3

AEB 6384 Marketing Economics in Agriculture.
Credits: 3

AEB 6385 Management Strategies for Agribusiness Firms.
Credits: 3

AEB 6429 Research Seminar in Econometrics.
Credits: 1 to 3

AEB 6453 Natural Resource Economics.
Credits: 3

AEB 6455 Natural Resource Institutions and Policy.
Credits: 3

AEB 6483 Regional Policy and Development.
Credits: 3

AEB 6533 Nonstochastic Models.
Credits: 4

AEB 6553 Elements of Econometrics.
Credits: 3

AEB 6571 Econometric Methods I.
Credits: 4

AEB 6572 Econometric Methods II.
Credits: 4

AEB 6592 Activity Analysis for Economic Decisions.
Credits: 3

AEB 6625 Regional Economics.
Credits: 4

AEB 6634 Agricultural Development Administration.
Credits: 3

AEB 6645 Economic Development and Agriculture.
Credits: 3

AEB 6651 Agriculture's Role in the Growth of Latin American Nations.
Credits: 3

AEB 6674 International Agricultural Trade and Policy.
Credits: 3

AEB 6676 International Agricultural Finance and Policy.
Credits: 3

AEB 6727 Rural Welfare and Development Policy.
Credits: 3

AEB 6815 Science and Research Methodology.
Credits: 2

AEB 6905 Problems in Food and Resource Economics.
Credits: 1 to 3; max: 4

AEB 6910 Supervised Research.
Credits: 1 to 5††

AEB 6933 Special Topics.
Credits: 1 to 6; max: 6

AEB 6940 Supervised Teaching.
Credits: 1 to 5††

AEB 6971 Master's Research.
Credits: 1 to 15††

AEB 7980 Doctoral Research.
Credits: 1 to 15††

FOOD SCIENCE AND HUMAN NUTRITION
College of Agriculture

INSTRUCTIONAL STAFF 1981-82

Kirk, J.R., Chairman; Adams, J.P.; Ahmed, E.M.; Appledorf, H.; Bailey, L.B.; Bates, R.P.; Brown, Jr., R.D.; Corbett, M.D.; Cousins, R.J.; Deng, J.; Dinning, J.S.; Gregory, J.F.; Jezeski, J.J.; Koburger, J.A.; Matthews, R.F.; Meiners, C.R.; Moye, H.A.; Oblinger, J.L.; Otwell, W.S.; Robbins, R.C.; Schmidt, R.H.; Shireman, R.B.; Sitren, H.S.; Smith, K.L.; Thompson, N.P.; Wagner, P.A.; Wei, C.; Wheeler, W.B. The following faculty from other departments and units instruct in the Food Science program: Bachman, K.C.; Baird, C.D.; Braddock, R.J.; Crandall, P.G.; Edds, G.T.; Emerson, A.P.; Janky, D.M.; Marcy, J.E.; West, R.L.

Dietetics

DIE 4125 Food Systems Management. F.
Credits: 3; Prereq: FOS 3042 and HUN 3221.
Aspects of quantity food service systems; technological developments; management and physical facilities.

DIE 4244 Nutrition and Disease. S.
Credits: 3; Prereq: HUN 4241.
Diseases related to nutrient intake; nutritional requirements created by diseases. These will be coordinated with analysis of diets used in medical treatments.

Food Science

FOS 2001 Man's Food. F, S.
Credits: 2
World population and food problems. Relationship of man's health to production, conservation and consumption patterns.

FOS 2002 Food and Consumer Protection. S.
Credits: 2
Technological problems and changing attitudes toward new products, new food sources, food labelling additives, nutrition, wholesomeness, sanitation, pollution and the responsibilities of the food industry.

FOS 3042 Introductory Food Science. F, S.
Credits: 3; Prereq: CHM 2041.
The student will be exposed to the commodities selected for human consumption and the methods used by food technologists to prolong shelf life, retard spoilage and ensure quality. The principles upon which the various processing methodologies are based will be stressed.

FOS 4222C Food Microbiology. S.
Credits: 4; Prereq: MCB 3020 and MCB 3020L.
Sources of biological contamination and their control during harvesting, handling, processing and storage of foods; food fermentation; Hygiene and food plant sanitation; and methods used to examine foods for total microbial content and for specific groups of organisms.

FOS 4252 Food Epidemiology. S.
Credits: 3; Prereq: HUN 2201, FOS 4222C, or consent of instructor.
Introduction to the principles and practices of epidemiology with special emphasis on the epidemiological aspects of foodborne, waterborne and nutritional diseases.

FOS 4427C Principles of Food Processing. S.
Credits: 4; Prereq: FOS 3042, FOS 4311C, FOS 4222C, MAG 4062; or consent of instructor.
Principles of processing and preserving foods by cooling, freezing, heating, and dehydrating, concentrating, irradiating, fermenting and use of chemicals.

FOS 4311C Food Chemistry. F.
Credits: 4; Prereq: FOS 3042, Organic Chemistry.
Relationship of composition to the properties of foods and the changes which occur during processing, storage and utilization.

FOS 4321C Food Analysis. S.
Credits: 4; Prereq: FOS 4311C, Physics.
Principles and practice of physical and chemical methods for analyzing foods.

FOS 4522C Seafood Technology. F.
Credits: 3; Prereq: FOS 3042, CHM 2041 or consent of instructor.
Processing principles and methods of preparation of various seafood products and control of product quality.

FOS 4551C Fruit, Vegetable and Citrus Processing. S.
Credits: 3; Prereq: CHM 2042.
Principles and application of processing methods for fruits and vegetables and the control of product quality.

FOS 4722C Statistical Quality Control and Sensory Evaluation of Foods. F.
Credits: 2; Prereq: STA 3023; 8 credits of FOS 4000 level course work recommended.
Application of statistics and sensory evaluation to selection of raw products and quality control during processing, storage and marketing.

FOS 4731 Government Regulations and the Food Industry. S.
Credits: 1
Governmental laws and rules regulating food wholesomeness and freedom from disease causing agents; food handling, processing and distribution under sanitary conditions; food ingredients and the labeling of food and food type products.

FOS 4905 Special Problems in Food Science and Human Nutrition. F, S, SS.
Credits: 1 to 5
Individual research work in various phases of Food Science. May be repeated up to a maximum of 7 credits.

FOS 4931 Food Science and Human Nutrition Seminar. S.
Credits: 1

FOS 4936 Topics in Food Science and Human Nutrition. F, S, SS.
Credits: 1 to 3; Prereq: Consent of instructor.
Lectures, conferences or laboratory covering specially selected topics in food science and human nutrition. May be repeated with change of content up to a maximum of 7 credits.

FOS 4941 Full Time Practical Work Experience in Food Science and Human Nutrition. F, S, SS.
Credits: 1 to 3; S-U Grade only. Prereq: Prior arrangement with adviser, approval of Department Chairman and Dean. One term employment in food industry including extra work according to a pre-approved outline. Practical work under industrial supervision as set forth in College of Agriculture regulations.

Human Nutrition

HUN 2201 Fundamentals of Human Nutrition. F.
Credits: 3; Prereq: none; a course in general chemistry or biology is recommended.
The properties, functions, requirements, interrelationships and metabolism of nutrients. In order to satisfy the nutrition requirement of the American Dietetic Association it is necessary to take HUN 3221.

HUN 3221 Introduction to Human Nutrition. S.
Credits: 3; Prereq: APB 3223, HUN 3246, CHM 3200.
This course will serve as an introduction to aspects of food habits, food resources and diet in health and disease. The metabolic relationships of various food constituents will be discussed with emphasis upon their roles in physiological processes as well as variations of nutritional requirements in response to stress situation.

HUN 3246 Agricultural and Nutritional Biochemistry. F, S.
Credits: 3; Prereq: Organic Chemistry or consent of instructor.
An introduction to biochemistry with emphasis on intermediary metabolism. Fundamentals of structures and reactions involving biochemical molecules will be covered stressing integration and regulation of biochemical processes in plants and animals.

HUN 4241 Human Nutrition. SS.
Credits: 3; Prereq: HUN 3221.
A discussion of the chemical, physiological and cultural considerations underlying the application of nutrition to the human.

The following courses are offered through other departments in the College of Agriculture and are part of the overall Food Science and Human Nutrition program. Certain of these courses are required in the Food Science curriculum as detailed in the College of Agriculture general information section of the catalog.

ANS 4635 Meat Processing. F.
Credits: 4; Prereq: CHM 2041 and MAC 1132.
Methods used for processing and the Federal and State Regulations for meat.

DAS 4614 Dairy Technology. F.
Credits: 4
Nature and properties of milk constituents; effects of processing on milk constituents; defects

††Grading is on S-U basis only.

in dairy foods and their causes; dairy foods processing; and analytical procedures for processing and quality control.

MAG 4062 Principles of Food Engineering. F.
Credits: 4; Prereq: MAC 1132 and 5 credits of physics.
The functional requirements and principles of operation of systems for handling and processing of food and agricultural products.

PSE 4611 Poultry Products Technology. S.
Credits: 3; Prereq: ASG 3003.
Processing methods, composition, nutritive value, flavor, palatability and shelf-life of poultry, meat and eggs.

VES 4611 Environmental Toxicology and Public Health. S.
Credits: 3; Prereq: Organic Chemistry.
Drugs and toxicants, their metabolism as influenced by food or residues; drugs induced deficiency diseases; adverse reactions; mycotoxins; common poisons, their diagnosis, prevention and treatment.

GRADUATE COURSES
Food Science

FOS 5561C Citrus Processing Technology.
Credits: 3

FOS 6226C Advanced Food Microbiology.
Credits: 4

FOS 6315C Advanced Food Chemistry.
Credits: 3

FOS 6316C Proteins and Enzymes in Food Systems.
Credits: 4

FOS 6317 Lipids and Carbohydrates in Food Systems.
Credits: 4

FOS 6355C Instrumental Analysis and Separations.
Credits: 5

FOS 6371C Pesticide Analysis.
Credits: 3

FOS 6428C Advanced Food Processing.
Credits: 4

FOS 6435C Food Product Development.
Credits: 2

FOS 6455C Industrial Food Fermentations.
Credits: 3

FOS 6726C Psychophysical Aspects of Foods.
Credits: 3

FOS 6905 Problems in Food Science and Human Nutrition.
Credits: 1 to 4; maximum of 8 credits.

FOS 6910 Supervised Research.
Credits: 1 to 5††

FOS 6915 Research Planning.
Credits: 2

FOS 6936 Topics in Food Science and Human Nutrition.
Credits: 1 to 3; maximum of 8 credits.

FOS 6938 Food Science and Human Nutrition Seminar.
Credits: 1

FOS 6940 Supervised Teaching.
Credits: 1 to 5††

††Grading is on S-U basis only.

FOS 6971 Master's Research.
Credits: 1 to 15††

FOS 7980 Research for Doctoral Dissertation.
Credits: 1 to 15††

Human Nutrition

HUN 6191 Nutritional Status and Food Policy.
Credits: 2

HUN 6245 Advanced Human Nutrition.
Credits: 3

HUN 6301 Nutritional Aspects of Carbohydrates and Lipids.
Credits: 4

HUN 6321 Proteins and Amino Acids in Human Nutrition.
Credits: 3

HUN 6331 Vitamins and Minerals in Human Nutrition.
Credits: 4

HUN 6812C Analytical Techniques in Nutrition Research: Biological and Radiochemical.
Credits: 3

FOREIGN LANGUAGES
College of Liberal Arts and Sciences

Foreign Language — Cross Departmental••

Foreign and Biblical Languages

FOL 2905 Individual Work in Foreign Languages. F, S.
Credits: 1 to 3; Prereq: Permission of the department.

FOL 4905 Individual Work. F, S, SS.
Credits: 1 to 3; Prereq: Permission of the department.

FOT 2120 Masterpieces of Continental Literature. F, S.
Credits: 3
Selected works from the literatures of Europe, mainly France, Germany, Russia, and Spain. All readings and discussions in English.

CHINESE••

INSTRUCTIONAL STAFF 1981-82

Ch'u, C.C.; Johnson, I.

Chinese Language

CHI 1120 Beginning Chinese 1. F.
Credits: 5

CHI 1121 Beginning Chinese 2. S.
Credits: 5; Prereq: CHI 1120 (grade of C or better, or S) or the equivalent.

CHI 2201 Second-Year Chinese 1. F.
Credits: 3; Prereq: CHI 1121 (grade of C or better, or S) or the equivalent.

CHI 2202 Second-Year Chinese 2. S.
Credits: 3; Prereq: CHI 2201 (grade of C or better, or S) or the equivalent.

CHI 3500 Chinese Culture. F.
Credits: 3
An introduction to Chinese culture with emphasis on its philosophy, language, literature, art and people as a whole. All readings in English.

JAPANESE••

INSTRUCTIONAL STAFF 1981-82

Vance, T.

Japanese Language

JAP 1120 Beginning Japanese 1. F.
Credits: 5

JAP 1121 Beginning Japanese 2. S.
Credits: 5; Prereq: JAP 1120 (grade of C or better, or S) or the equivalent.

GERMANIC AND SLAVIC LANGUAGES AND LITERATURES
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Johnston, O.W., Chairman; Barksdale, E.C.; Gellineck, C.J.; Hooper, R.M.; Kalishman, N.P.; Kraft, H.W.; Loyd, R.T.; Marshall, H.B. Jr.; Popp, D.M.; Rennert, H.H.; Sullivan, W.J. III. Graduate Coordinator: C. J. Gellineck. Undergraduate Adviser in German: H.W. Kraft. Undergraduate Adviser in Russian: W.J. Sullivan III. Undergraduate Adviser in Scandinavian: D.M. Popp.

Beginning students may choose a "traditional" or "accelerated" track in German or Russian. Although each track involves ten hours of instruction, the "traditionally" taught courses encompass three semesters (four hours for GER 1120, three for GER 1121 and three for GER 1122), while the "accelerated" track (GER 1130 and GER 1131) is completed in two five-hour semester courses. Departmental permission must be obtained before registering for the "accelerated" track, which requires attendance in both a master class and a daily one-hour tutorial. Students who have had previous formal training in German or Russian at another institution are required to take a placement test before registering.

An undergraduate major is offered in both German and Russian. Instruction in the Scandinavian languages and in Polish is also available. Students interested in these programs should consult a departmental advisor at the earliest opportunity. The major consists of 30 semester hours above the second-year college level (GER 2000-level or RUS 2000-level or equivalent) including the departmental requirements GER 4840 or RUS 4700 (for Russian students).

A major in German may be obtained on either of two options. For those seeking careers in teaching, library science, book publication and sales, or following a pre-professional program in law and medicine, GSLL offers the "Language and Literature Option" (LLO). This option requires 30 semester hours of work in GER in GEW 3000- and 4000-level courses. Majors choosing this option are encouraged to take courses in other departments which support and enhance their knowledge of German literature and culture. We recommend that they enroll in UF's summer program in Innsbruck and the Junior (or Senior) Year at the University of Bonn.

For those interested in international affairs and commerce, state department jobs, careers in banking, hotel and restaurant administration as well as technical and scientific translation may choose the "German Area Studies Emphasis" (GASE). The major exercising this option takes a minimum of eighteen hours of work outside the department distributed among upper-level courses in German philosophy or religion, political science, history and/or international business.

A student majoring in German or Russian who desires to be graduated with departmental honors should apply to the department near the end of his Junior year. To qualify for departmental honors, the student must achieve a 3.5 grade point average in all courses in his major field above the GER 2000 level. An additional requirement is that the student complete with distinction a special

project assigned as honors work during the Senior year, and be recommended by three or more members of the department staff.

German Language

GER 1120 Beginning German 1. F.
Credits: 4

GER 1121 Beginning German 2. F.
Credits: 3; Prereq: GER 1120 (grade of C or better, or S), or the equivalent.

GER 1122 Beginning German 3. F.
Credits: 3; Prereq: GER 1121 (grade of C or better, or S), or the equivalent.

GER 1130 Accelerated Beginning German 1. F.
Credits: 5
Designed to develop spoken proficiency in shortest time. Students will meet one additional hour daily for supervised homework hour.

GER 1131 Accelerated Beginning German 2.
Credits: 5; Prereq: GER 1130 (grade of C or better or S) or the equivalent.

GER 2200 Film and Readings in German Culture. F.
Credits: 4; Prereq: GER 1122 or GER 1130 or the equivalent.

GER 2230 German in the Social Sciences and Humanities. F.
Credits: 3; Prereq: GER 1122 or GER 1130 or the equivalent.

GER 2240 German Conversation and Grammar. F.
Credits: 3; Prereq: GER 1122 or GER 1130 or the equivalent.

GER 2250 German in Sciences and Engineering. F.
Credits: 3; Prereq: GER 1122 or GER 1130 or the equivalent.

GER 3410 Understanding and Speaking German. F.
Credits: 3; Prereq: GER 2200 or the equivalent.

GER 3420 Speaking and Writing German.
Credits: 3; Prereq: GER 2200 or the equivalent.

GER 3440 German in Business.
Credits: 3; Prereq: Any course on the GER 2000 level or the equivalent.

GER 3500 The Impact of German Culture. F.
Credits: 3; Prereq: GER 2200 or the equivalent.

GER 3501 The Contemporary German.
Credits: 3; Prereq: GER 2200 or the equivalent.

German Literature in Translation

GET 2480 Introduction to Modern German Literature in Translation. F.
Credits: 3; Prereq: None. Not for major credits.

German Literature (Writings)

GEW 2930 Variable Languages: Danish, Dutch.
Credits: 3 to 9

GEW 3100 Masterpieces of German Literature 1.
Credits: 3; Prereq: GER 2200 or the equivalent.
Study of representative texts from the Old High German period to Martin Optiz.

GEW 3101 Masterpieces of German Literature 2.
Credits: 3; Prereq: GER 2200 or the equivalent.
Study of representative texts from the Classical Period to the present time.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

German Language

GER 4400 German in an International Context. F.
Credits: 3; Prereq: Any course on the GER 3000 level or equivalent.

GER 4840 The Evolution of the German Language.
Credits: 3; Prereq: GER 3410 and GER 3420 or the equivalent.

German Literature (Writings)

GEW 4300 Trends in the German Theater. F,
Credits: 3; Prereq: GER 3410-3420 and GEW 3100-3101 or the equivalent.

GEW 4332 German Love and Death Poetry.
Credits: 3; Prereq: GER 3410-3420 or the equivalent.

GEW 4400 Minstrels and Storytellers. F.
Credits: 3; Prereq: Departmental approval.

GEW 4513 Reason Versus Genius. F.
Credits: 3; Prereq: GER 3410-3420 and GEW 3100-3101 or the equivalent.

GEW 4530 The Golden Age. F.
Credits: 3; Prereq: GER 3410-3420 and GEW 3100-3101 or the equivalent.

GEW 4542 Romantics and Revolutionaries. F.
Credits: 3; Prereq: GER 3410-3420 and GEW 3100-3101 or the equivalent.

GEW 4554 German Literature and Social Change.
Credits: 3; Prereq: GER 3410-3420 and GEW 3100-3101 or the equivalent.

GEW 4730 Kafka, Hesse, Brecht, and Grass. F.
Credits: 3; Maximum 12 credits. Prereq: GEW 3100, 3101 or the equivalent.

GEW 4750 Women in German Literature. F.
Credits: 3; Prereq: GER 3410-3420 and GEW 3100-3101 or the equivalent.
A variable content course, focusing on the figure of women in literature, female writers, and female critics.

GEW 4820 Foundations of Literary Study. F.
Credits: 3; Prereq: GER 3410-3420 and GEW 3100-3101 or the equivalent.

GEW 4905 Individual Work. F.
Credits: 1 to 3
Available only by special arrangement. May be repeated with change of content to a maximum of 12 credits.

GRADUATE COURSES

German Language

GER 6050 Beginning German for Graduate Students 1. F.
Credits: 3††

GER 6051 Beginning German for Graduate Students 2.
Credits: 3; Prereq: GER 6050 or the equivalent. S/U option.

GER 6405 Advanced Speaking and Writing Exercises. F.
Credits: 3

GER 6845 The Evolution of the German Language. F.
Credits: 3

GER 6940 Supervised Teaching.
Credits: 1 to 5††; maximum of 3 credits.

German Literature (Writings)

GEW 6305 Studies in German Drama and Theater. F.
Credits: 3

GEW 6335 Studies in German Poetry.
Credits: 3

GEW 6401 Middle High German Love Poetry. F.
Credits: 3; Prereq: GEW 4400 or GEW 6405 or the equivalent.

GEW 6405 Introduction to Middle High German Literature.
Credits: 3

GEW 6425 Fate, Fortune, and Frivolity. F.
Credits: 3

GEW 6489 Post-War Literature: East and West.
Credits: 3

GEW 6517 Eighteenth Century German Literature. F.
Credits: 3

GEW 6535 Studies in German Classical Literature. F.
Credits: 3

GEW 6545 Studies in Romantic or Post-Romantic Literature. F.
Credits: 3

GEW 6558 Nineteenth Century Literature.
Credits: 3

GEW 6600 The Genius of Goethe.
Credits: 3

GEW 6735 Studies in Modern German Literature. F.
Credits: 3

GEW 6755 The Contribution of Women in German Literary History. F.
Credits: 3

GEW 6825 Foundations of German Literary Criticism. F.
Credits: 3; maximum of 9 credits.

GEW 6900 Special Study in Germanic Languages and Literatures.
Credits: 3; maximum of 9 credits.

GEW 6905 Independent Studies.
Credits: 1 to 3; maximum of 9 credits; S/U option.
Available only by special arrangement.

GEW 6910 Supervised Research.
Credits: 1 to 5††

GEW 6938 Seminar in Germanic Studies.
Credits: 3; maximum of 9 credits.

GEW 6971 Research for Master's Thesis.
Credits: 1 to 15††

Foreign Languages — Comparative Literature

FOT 2120 Masterpieces of Continental Literature. F, S.
Credits: 3
Offered by Dept. of Germanic/Slavic Lang. as a General Education course. (Cross-listed with Romance Languages.) Selected works from the literatures of Europe, mainly France, Germany, Russia, Spain. All readings and discussions in English.

FOW 2202 Film in the 20th Century: Germany, Russia, Scandinavia, The New German Cinema.
Credits: 3; Prereq: 2UF Standing.
Contemporary German film makers: Herzog, Fassbinder, Schlondorff, Geissendorfer, Wenders. Study of films and literary/cultural sources, coordinated with Reitz Union film program.

Icelandic Literature (Writings)

ICW 6400 The Viking Sagas. F.
Credits: 3

ICW 6401 Readings in Sagas and Scaldic Poetry.
Credits: 3

Polish Language

POL 1121 Beginning Polish 1. F.
Credits: 5

††Grading is on S-U basis only.

POL 1122 Beginning Polish 2.
Credits: 5; Prereq: POL 1121 (grade of C or better, or S) or the equivalent.

POL 1130 Intensive Polish.
Credits: 3 to 9
The equivalent of Polish, 1121-1122. Beginning Polish sequence.

POL 2210 Intermediate Polish. F.
Credits: 3 to 9

Polish Literature (Writings)

PLW 4102 Polish Literature.
Credits: 3
With change of content may be repeated for credit twice.

PLW 4905 Individual Work. F
Credits: 1 to 9
Available only by special arrangement. May be repeated for additional credit.

Russian Language

RUS 1120 Beginning Russian 1. F.
Credits: 4

RUS 1121 Beginning Russian 2.
Credits: 3; Prereq: RUS 1120 (grade of C or better or S) or the equivalent.

RUS 1122 Beginning Russian 3.
Credits: 3; Prereq: RUS 1121 (grade of C or better or S) or the equivalent.

RUS 1130 Accelerated Beginning Russian 1. F.
Credits: 5
Designed to develop spoken proficiency in shortest time. Students will meet one hour daily outside of class for supervised homework hour.

RUS 1131 Accelerated Beginning Russian 2.
Credits: 5; Prereq: RUS 1129 (grade of C or better or S) or the equivalent.

RUS 2240 Intermediate Russian: Conversation. F.
Credits: 3; Prereq: RUS 1122 or RUS 2130 or the equivalent.

RUS 2250 Intermediate Russian: For Scientists or Social Scientists.
Credits: 3; Prereq: RUS 1120 or RUS 1130 or the equivalent.

RUS 2266 Intermediate Russian: Reading and Writing.
Credits: 3; Prereq: RUS 2199 or the equivalent.

RUS 2905 Beginning Individual Work
Credits: 1 to 3

RUS 4300 Advanced Grammar and Composition.
Credits: 3; Prereq: RUS 2200 or RUS 2201 or the equivalent.

RUS 4700 Structure of the Russian Language. F.
Credits: 3; Prereq: RUS 2200 or RUS 2201 or the equivalent.

RUS 4840 History of the Russian Language.
Credits: 3; Prereq: RUS 2200 or the equivalent.
A study of the development of the Russian Language.

RUS 4905 Special Studies in Russian. F.
Credits: 1 to 3; Prereq: RUS 2200 or the equivalent and permission of the professor in charge.
With change of content, may be repeated for additional credit. Will be offered from time to time as staffing allows.

Russian Literature in Translation

RUT 2110 Russian Masterpieces. F.
Credits: 3; Prereq: None. Not for major credits.

RUT 2454 Survey of Russian Literature: 1800 to the present.
Credits: 3

Russian Literature (Writings)

RUW 3100 Introduction to Russian Literature 1. F.
Credits: 4; Prereq: RUS 2199 or the equivalent.
A survey of Russian literary history from 1880 through Dostoyevsky and Tolstoy.

RUW 3101 Introduction to Russian Literature 2.
Credits: 4; Prereq: RUS 3100 or the equivalent.
A survey of Russian literary history from Tolstoy to the present day.

GRADUATE COURSES

Russian Language

RUS 5301 Grammar and Composition Exercises.
Credits: 3

RUS 5701 Structure of Russian. F.
Credits: 3

RUS 5845 The Development of the Russian Language.
Credits: 3

Russian Literature (Writings)

RUW 5120 Survey of Russian Literary History. F.
Credits: 4

RUW 5121 Survey of Modern Russian Literature.
Credits: 4

RUW 5905 Special Studies in Russian. F.
Credits: 1 to 3
Available only by special arrangement. May be repeated for additional credit.

Scandinavian Languages

SCA 1120 Beginning Scandinavian: Swedish, Norwegian 1. F.
Credits: 4

SCA 1121 Beginning Scandinavian: Swedish, Norwegian 2.
Credits: 3

SCA 1122 Beginning Scandinavian: Swedish, Norwegian 3. F.
Credits: 3

SCA 2501 The Contemporary Scandinavian Scene. F.
Credits: 3

SCA 2502 — Scandinavian Myth and Saga.
Credits: 3

ROMANCE LANGUAGES AND LITERATURES

College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Gay-Crosier, R., Chairman; Allen, J.J.; Avellaneda, A.; Baker, S.R.; Bonneville, D.A.; Cailler, B.; Casagrande, Jean; Casagrande, Juanita; Conner, J.W.; Der-Houssikian, H.; Diller, G.T.; García, R.; Gil, A.; Hower, A.; Ibarra, F.; Jiménez, R.; Lasley, M.M.; Murphy, C.; Nichols, G.; Pharies, D.A.; Prieto, A.; Seager, D; Smith, A.B.

An undergraduate major is offered in French and Spanish. The major consists of 30 semester hours above the second-year college level, plus a subsidiary requirement of LIN 3010. Students intending to major in a foreign language should consult a department adviser at the earliest opportunity.

The Department of Romance Languages and Literatures will recommend for graduation with departmental honors majors in French and Spanish who satisfy the following three requirements: (1) maintenance of a 3.7 grade point average in all required courses in the undergraduate major; (2) maintenance of a 3.5 grade point average overall; (3) completion of two semesters of senior (4000-level) honors tutorials.

Honors tutorials are also offered at the 2000 and 3000 levels. These are one-credit courses, meeting one hour per week, designed to provide outstanding students with the opportunity to do individual work suited to their own interests and abilities. Any qualified student may participate.

Students who plan to continue the study of a language which they began in high school or another college are required to take a placement test before registering.

Romance Languages

FOL 6732 Introduction to Romance Linguistics.
Credits: 3

FOW 6930 Special Study in Romance Languages and Literatures.
Credits: 1 to 3

French

French Language

FRE 1100 Beginning French 1. F, S, SS.
Credits: 5
This course and its sequel, FRE 1122, constitute the basic sequence in French for the development of overall skill in the language. Students interested in continuing the study of French beyond the beginning level should enroll in this sequence. Open only to students with little or no background in French.

FRE 1110 Basic French for Reading 1. F, S, SS.
Credits: 4
For students with little or no background in French. Study of French for the development of reading skill. FRE 1110-1111-1112 constitute a single, terminal sequence. Students planning to study French beyond the beginning level should enroll in the FRE 1100-1122 sequence.

FRE 1111 Basic French for Reading 2. F, S, SS.
Credits: 3; Prereq: FRE 1110 or the equivalent.

FRE 1112 Basic French for Reading 3. F, S, SS.
Credits: 3; Prereq: FRE 1111 or the equivalent.

FRE 1121 Elementary French: Review and Progress. F, S, SS.
Credits: 3
For students who have previous experience in French but who are not yet prepared for advanced elementary work in the language. FRE 1121 confirms overall skill in the language, to prepare students for FRE 1122.

FRE 1122 Beginning French 2. F, S, SS.
Credits: 5; Prereq: FRE 1100 or FRE 1121 (grade of C or better, or S) or the equivalent.

FRE 2200 Intermediate French 1. F, S, SS.
Credits: 3; Prereq: FRE 1122, or the equivalent.

FRE 2201 Intermediate French 2. F, S, SS.
Credits: 3; Prereq: FRE 2200 or the equivalent.

FRE 2240 Intermediate French Conversation 1. F, S, SS.
Credits: 1; Prereq: FRE 1122 or the equivalent.

FRE 2241 Intermediate French Conversation 2. F, S, SS.
Credits: 1; Prereq: FRE 2240 or the equivalent.

FRE 3300 Grammar and Composition 1. F.
Credits: 3; Prereq: FRE 2201, or the equivalent.

FRE 3320 Grammar and Composition 2. S.
Credits: 3; Prereq: FRE 3300, or the equivalent.

FRE 3410 Advanced French Conversation 1. S.
Credits: 1; Prereq: FRE 3300 and FRE 3780, or the equivalent.

FRE 3440 Commercial French. S.
Credits: 3; Prereq: FRE 2201 or the equivalent.

FRE 3500 French Civilization. F.
Credits: 3; Prereq: FRE 2201, or the equivalent.
Introduction to French civilization in historical perspective.

FRE 3564 Contemporary French Culture. S.
Credits: 3; Prereq: FRE 2201 or the equivalent.

FRE 3780 Corrective Phonetics. F.
Credits: 1; Prereq: FRE 2201 or the equivalent.

FRE 4411 Advanced French Conversation 2. F.
Credits: 1; Prereq: FRE 3410 or the equivalent.

FRE 4420 Advanced French Composition. F.
Credits: 3; Prereq: FRE 3320 and FRW 3100, or the equivalent.

FRE 4450 Stylistics. F.
Credits: 3; Prereq: FRE 3320 and FRW 3100, or the equivalent.

FRE 4780 French Phonetics. S.
Credits: 3; Prereq: FRE 3320 and LIN 3010.

FRE 4850 Introduction to the Structure of French. S.
Credits: 3; Prereq: FRE 3320 and LIN 3010.

FRE 4905 Individual Work. F, S, SS.
Credits: 1 to 3; Prereq: Permission of the department.

GRADUATE COURSES

FRE 6050 Beginning French for Graduate Students 1. F.
Credits: 3††

FRE 6051 Beginning French for Graduate Students 2. S.
Credits: 3

FRE 6423 Advanced French Composition.
Credits: 3

FRE 6466 Advanced Translation and Stylistics.
Credits: 3; Prereq: FRE 6423.

FRE 6730 Special Study in French Linguistics.
Credits: 3

FRE 6785 Advanced French Phonetics.
Credits: 3

FRE 6840 History of the French Language.
Credits: 3

FRE 6851 The Structure of French.
Credits: 3

FRE 6940 Supervised Teaching.
Credits: 1 to 5††

French Literature in Translation

FRT 2420 The French Literary Heritage I: Medieval to Classical. F.
Credits: 3; Prereq: None.
Selected masterpieces of the period up to the seventeenth century. Readings and discussions in English. Not for major credit.

FRT 2460 The French Literary Heritage II: Classical to Modern. S.
Credits: 3; Prereq: None.
Selected masterpieces from the seventeenth century to the present. Readings and discussions in English. Not for major credit.

French Literature (Writings)

FRW 3100 Introduction to French Literature. S.
Credits: 3; Prereq: FRE 2201 or the equivalent.
General study of French literary texts with focus on both genre and historical development.

FRW 4216 Readings in Seventeenth-Century French Prose.
Credits: 3; Prereq: FRE 3320 and FRW 3100 or the equivalent.

FRW 4275 Readings in the Novel of the Eighteenth Century.
Credits: 3; Prereq: FRE 3320 and FRW 3100 or the equivalent.

FRW 4300 Readings in Seventeenth-Century French Drama.
Credits: 3; Prereq: FRE 3320 and FRW 3100, or the equivalent.

FRW 4350 Survey of Modern French Poetry.
Credits: 3; Prereq: FRE 3320 and FRW 3100, or the equivalent.
The development of French poetry from Baudelaire to the present.

FRW 4420 Medieval and Sixteenth-Century French Literature.
Credits: 3; Prereq: FRE 3320 and FRW 3100, or the equivalent.

FRW 4480 Readings in Twentieth-Century French Literature.
Credits: 3; Prereq: FRE 3320 and FRW 3100, or the equivalent.

FRW 4535 Survey of French Romantic Literature.
Credits: 3; Prereq: FRE 3320 and FRW 3100, or the equivalent.
Study of representative texts, with emphasis on work of Lamartine, Vigny, Hugo, and Musset.

FRW 4555 Introduction to Realism and Naturalism.
Credits: 3; Prereq: FRE 3320 and FRW 3100, or the equivalent.
The novel and its development from Stendhal to Zola.

FRW 4710 Introduction to the Philosophic Movement.
Credits: 3; Prereq: FRE 3320 and FRW 3100, or the equivalent.
Readings from representative authors of the eighteenth century, particularly Voltaire, Diderot, and Rousseau.

FRW 4770 African Literature of French Expression.
Credits: 3; Prereq: FRE 3320 and FRW 3100, or the equivalent.
An introduction to the works of modern Black writers from Africa and the Caribbean, notably Cesaire, Senghor, Damas, Roumain, B. Diop, Beti, Oyono, Laye.

GRADUATE COURSES

FRW 6215 French Prose of the Renaissance.
Credits: 3

FRW 6217 Seventeenth-Century French Prose.
Credits: 3

FRW 6276 The Novel of the Eighteenth Century.
Credits: 3

FRW 6288 Contemporary French Novel.
Credits: 3

FRW 6311 Seventeenth-Century French Drama.
Credits: 3

FRW 6318 French Classical Comedy.
Credits: 3

FRW 6328 Contemporary French Theatre.
Credits: 3

FRW 6340 French Poetry of the Renaissance.
Credits: 3

FRW 6351 Modern French Poetry.
Credits: 3

FRW 6415 Old French Literature 1.
Credits: 3

FRW 6416 Old French Literature 2.
Credits: 3

FRW 6481 Twentieth-Century French Literature.
Credits: 3

FRW 6536 The Romantic Period.
Credits: 3

FRW 6556 Realism and Naturalism.
Credits: 3

FRW 6560 The French Symbolist Movement.
Credits: 3

FRW 6711 The Philosophic Movement.
Credits: 3

FRW 6755 Twentieth-Century Caribbean and West African Literature of French Expression.
Credits: 3

FRW 6805 Introduction to Graduate Study and Research.
Credits: 3

FRW 6825 Literary Criticism in France.
Credits: 3

FRW 6900 Special Study in French Literature.
Credits: 3

FRW 6905 Individual Work.
Credits: 1 to 3 (maximum 10).

FRW 6910 Supervised Research.
Credits: 1 to 5††

FRW 6971 Master's Research.
Credits: 1 to 15††

FRW 7980 Doctoral Research.
Credits: 1 to 15††

Italian

Italian Language

ITA 1120 Beginning Italian 1. F.
Credits: 5

ITA 1121 Beginning Italian 2. S.
Credits: 5; Prereq: ITA 1120 (grade of C or better, or 5) or the equivalent.

ITA 3400 Composition and Conversation.
Credits: 3; Prereq: ITA 1121, or the equivalent.

ITA 4905 Individual Work.
Credits: 1 to 3; Prereq: Permission of the department.

Italian Literature (Writings)

ITW 3100 Introduction to Italian Literature 1.
Credits: 3; Prereq: ITA 1121, or the equivalent.
The major Italian authors from the Middle Ages through the Early Renaissance.

ITW 3101 Introduction to Italian Literature 2.
Credits: 3; Prereq: ITW 3100, or the equivalent.
The major Italian authors from the Renaissance through the eighteenth century.

Portuguese

Portuguese Language

POR 1120 Beginning Portuguese 1. F.
Credits: 5
This sequence, POR 1120-1121, is a basic course in Portuguese stressing the language as spoken in Brazil.

††Grading is on S-U basis only.

Descriptions

FOREIGN LANGUAGES

POR 1121 Beginning Portuguese 2. S.
Credits: 5; Prereq: POR 1120 (grade of C or better, or S) or the equivalent.

POR 3130 Introductory Portuguese (accelerated). F, SS.
Credits: 4; Prereq: SPN 2201 or FRE 2201 or the equivalent.

POR 3240 Oral Practice in Portuguese. S.
Credits: 3; Prereq: POR 1121, or the equivalent.

POR 3241 Composition and Conversation. F.
Credits: 3; Prereq: POR 1121, or the equivalent.

POR 3500 Luso-Brazilian Civilization and Culture. F.
Credits: 3; Prereq: POR 1121 or permission of the department.

POR 4770 Portuguese Phonetics and Phonology. S.
Credits: 3; Prereq: POR 1121 and an introductory course in linguistics.

POR 4840 Introduction to the History of the Portuguese Language. F.
Credits: 3; Prereq: POR 1121 or permission of the department.

Portuguese Literature (Writings)

POW 3100 Introduction to Literature in Portuguese. F.
Credits: 3; Prereq: POR 1121, or permission of the department.
An introductory study of some of the major writers in the Portuguese language.

POW 3130 Introduction to Brazilian Literature 1. S.
Credits: 2; Prereq: POR 1121, or the permission of the department.
A study of Brazilian authors of the nineteenth and twentieth centuries.

POW 3131 Introduction to Brazilian Literature 2. F.
Credits: 2; Prereq: POR 1121, or permission of the department.
A study of major contemporary writers.

POW 4382 Brazilian Drama.
Credits: 3

POW 4450 Modernist Movement in Brazilian Literature.
Credits: 3

POW 4700 Machado de Assis and His Contemporaries.
Credits: 3

POW 4710 Eca de Queiros and His Contemporaries.
Credits: 3

POW 4750 African Literature in Portuguese.
Credits: 3

POW 4905 Individual Work.
Credits: 1 to 3

GRADUATE COURSES

POW 6275 The Nineteenth-Century Brazilian Novel.
Credits: 3

POW 6276 The Twentieth-Century Brazilian Novel.
Credits: 3

POW 6385 Brazilian Poetry.
Credits: 3

POW 6386 Brazilian Drama.
Credits: 3

††Grading is on S-U basis only.

POW 6400 Medieval and Renaissance Portuguese Literature.
Credits: 3

POW 6930 Special Study in Brazilian or Portuguese Literature.
Credits: 3

Portuguese Literature in Translation

PRT 2490 Modern Brazilian Literature in Translation. S.
Credits: 3; Prereq: None.
Readings of outstanding Brazilian novels, short stories, and plays. Designed especially for students with little or no knowledge of Portuguese who desire to study Brazilian life, character, and culture as portrayed in the writings of some of Brazil's greatest authors.

Spanish

Spanish Language

SPN 1100 Beginning Spanish 1. F, S, SS.
Credits: 5
This course and its sequel, SPN 1122, constitute the basic sequence in Spanish. Emphasis on the development of broad competence in the language. Oral-aural approach, extensive use of language laboratory.

SPN 1121 Elementary Spanish: Review and Progress. F, S, SS.
Credits: 3
For students who have previous experience in SSpanish but who are not yet prepared for advanced elementary work in the language. SPN 1121 confirms overall skill in the language, to prepare students for SPN 1122.

SPN 1122 Beginning Spanish 2. F, S, SS.
Credits: 5; Prereq: SPN 1100 or SPN 1121 (grade of C or better, or S) or the equivalent.

SPN 2030 Spanish for Medical Personnel. S, SS.
Credits: 3; Prereq: SPN 2201 or the equivalent.
Designed to develop the practical medical vocabulary and conversational skills needed in a clinical situation.

SPN 2200 Intermediate Spanish 1. F, S, SS.
Credits: 3; Prereq: SPN 1122 or the equivalent.

SPN 2201 Intermediate Spanish 2. F, S, SS.
Credits: 3; Prereq: SPN 2200 or the equivalent.

SPN 2240 Intermediate Conversational Spanish. F, S.
Credits: 3; Prereq: SPN 2200 or the equivalent or permission of instructor.
Enrollment limited. Oral practice and corrective phonetics.

SPN 2440 Commercial Spanish. F, S.
Credits: 3; Prereq: SPN 2201 or the equivalent.
Development of vocabulary and conversational skills related to business.

SPN 3300 Spanish Grammar and Composition. F, S.
Credits: 4; Prereq: SPN 2201 or the equivalent.
Not open to native speakers of Spanish. Intensive course designed to develop the student's written and conceptual command of Spanish. Weekly compositions.

SPN 3313 Spanish Grammar and Composition for Native or Near-native Speakers. F.
Credits: 3; Prereq: Permission of instructor.
Emphasizes the normative aspects of the language, as well as those areas of grammar which are problematical for native speakers with little formal training in Spanish. Vocabulary, style, and usage of different levels of language. Weekly compositions. Prospective students must take a departmental placement test.

SPN 3410 Advanced Spanish Conversation 1. F.
Credits: 1; Prereq: SPN 2240 or permission of instructor.
Not for major credit.

SPN 3411 Advanced Spanish Conversation 2. S.
Credits: 1; Prereq: SPN 3410 or the equivalent.
Not for major credit.

SPN 3510 Culture and Civilization of Spain. F.
Credits: 3; Prereq: SPN 3300 or SPN 3313 or the equivalent.

SPN 3520 Culture and Civilization of Spanish America. S.
Credits: 3; Prereq: SPN 3300 or SPN 3313 or the equivalent.

SPN 4314 Advanced Composition and Syntax for Native Speakers. S.
Credits: 3; Prereq: SPN 3313 or permission of instructor.
Emphasizes those aspects of Spanish style and syntax which are problematical for the native speaker. Prospective students must take a departmental placement test.

SPN 4420 Advanced Composition and Syntax. S.
Credits: 3; Prereq: SPN 3300 or the equivalent.
Emphasizes the finer aspects of Spanish syntax, vocabulary and style which give the advanced student difficulties. Class discussion, drills, written compositions.

SPN 4780 Spanish Phonetics. F.
Credits: 3; Prereq: SPN 3300 and an introductory course in linguistics.

SPN 4840 Introduction to the History of the Spanish Language. S.
Credits: 3; Prereq: SPN 3300 and an introductory course in linguistics.

SPN 4850 Introduction to the Structure of Spanish. F.
Credits: 3; Prereq: SPN 3300 and an introductory course in linguistics.

SPN 4905 Individual Work. F, S, SS.
Credits: 1 to 3; Prereq: Permission of the department.

GRADUATE COURSES

SPN 6050 Beginning Spanish for Graduate Students I. F.
Credits: 3††

SPN 6051 Beginning Spanish for Graduate Students II. S.
Credits: 3; Prereq: SPN 6050 or the equivalent. S-U option.

SPN 6315 Advanced Composition and Syntax.
Credits: 3

SPN 6730 Special Study in Spanish Linguistics.
Credits: 3

SPN 6781 Advanced Spanish Phonetics.
Credits: 3

SPN 6843 History of the Spanish Language.
Credits: 3

SPN 6851 The Structure of Spanish.
Credits: 3

SPN 6940 Supervised Teaching.
Credits: 1 to 5††

Spanish Literature in Translation

SPT 2231 The Modern Spanish-American Novel in English Translation.
Credits: 3; Prereq: None. Not for major credit.
Readings of outstanding Spanish-American novels. Designed especially for students with little or no knowledge of Spanish who desire to study Spanish-American life, character and culture as portrayed in the writings of the most important novelists.

SPT 2601 Don Quixote in English Translation.
Credits: 3; Prereq: None. Not for major credit.
Analysis and interpretation of Cervantes' masterpiece with particular emphasis upon the place of *Don Quixote* in Spanish literature and in the development of the novel.

Spanish Literature (Writings)

SPW 3020 Introduction to Spanish-American Literature. F.
Credits: 3; Prereq: SPN 3300 or SPN 3313 or the equivalent.

SPW 3100 Introduction to Spanish Literature 1. F.
Credits: 3; Prereq: SPN 3300 or SPN 3313 or the equivalent.
Study of representative texts from the Middle Ages through the Golden Age.

SPW 3101 Introduction to Spanish Literature 2. S.
Credits: 3; Prereq: SPN 3300 or SPN 3313 or the equivalent.
Study of representative texts from the 18th century to the present.

SPW 4190 Seminar in Spanish-American Literature and Culture.
Credits: 3; Prereq: SPW 3020 or survey knowledge of Spanish and Spanish-American literature; considerable fluency in Spanish.
Topics to be selected. May be repeated with a change in content.

SPW 4215 Readings in Spanish Prose Fiction of the Golden Age.
Credits: 3; Prereq: SPW 3100.

SPW 4265 Readings in the Spanish Novel of the Nineteenth Century.
Credits: 3; Prereq: SPW 3101.

SPW 4270 Readings in Spanish Post-War Narrative.
Credits: 3; Prereq: SPW 3101.

SPW 4280 Readings in 19th-Century Spanish-American Literature.
Credits: 3; Prereq: SPW 3020 or the equivalent.

SPW 4282 Readings in Contemporary Spanish-American Narrative 1.
Credits: 3; Prereq: SPW 3020 or the equivalent.

SPW 4283 Readings in Contemporary Spanish-American Narrative 2.
Credits: 3; Prereq: SPW 3020 or the equivalent.

SPW 4310 Readings in Spanish Drama of the Golden Age.
Credits: 3; Prereq: SPW 3100.

SPW 4354 Readings in Contemporary Spanish-American Poetry.
Credits: 3; Prereq: SPW 3020 or the equivalent.

SPW 4490 Readings in 20th Century Spanish-American Literature.
Credits: 3; Prereq: SPW 3020 or the equivalent.

SPW 4S32 Introduction to Spanish Romanticism.
Credits: 3; Prereq: SPW 3101.

SPW 4604 Introduction to Cervantes.
Credits: 3; Prereq: SPW 3100.

SPW 4723 Readings in Spanish Literature from the Generation of 1927 to the Present.
Credits: 3; Prereq: SPW 3101.

SPW 4725 Readings in Spanish Literature from the Generation of '98 to 1927.
Credits: 3; Prereq: SPW 3101.

GRADUATE COURSES

SPW 6209 Colonial Spanish-American Literature.
Credits: 2

SPW 6216 Spanish Prose Fiction of the Golden Age.
Credits: 3

SPW 6237 The Spanish-American Novel from the Origins to Criollismo.
Credits: 3

SPW 6269 Spanish Novel of the 19th Century.
Credits: 3

SPW 6276 Spanish Post-War Narrative.
Credits: 3

SPW 6285 Contemporary Spanish-American Novel 1.
Credits: 3

SPW 6286 Contemporary Spanish-American Novel 2.
Credits: 3

SPW 6306 Spanish-American Theatre.
Credits: 3

SPW 6313 Spanish Drama of the Golden Age.
Credits: 3

SPW 6325 Contemporary Spanish Theatre.
Credits: 2

SPW 6337 Spanish Poetry of the Golden Age.
Credits: 2

SPW 6345 Twentieth-Century Spanish Poetry.
Credits: 2

SPW 6356 Spanish-American Poetry from Romanticism to Vanguardism.
Credits: 3

SPW 6357 Contemporary Spanish-American Poetry.
Credits: 3

SPW 6366 The Spanish-American Essay.
Credits: 3

SPW 6400 Old Spanish Literature.
Credits: 3

SPW 6535 Spanish Romanticism.
Credits: 3

SPW 6602 Cervantes.
Credits: 3

SPW 6724 Generation of '27 to the Present.
Credits: 3

SPW 6729 Generation of '98.
Credits: 3

SPW 6806 Introduction to Graduate Study and Research.
Credits: 3

SPW 6902 Special Study in Spanish or Spanish-American Literature.
Credits: 3

SPW 6905 Individual Work.
Credits: 1 to 3 (maximum 10)

SPW 6910 Supervised Research.
Credits: 1 to 5††

SPW 6971 Master's Research.
Credits: 1 to 15††

SPW 7980 Doctoral Research.
Credits: 1 to 15††

SWAHILI**

INSTRUCTIONAL STAFF 1981-82

Der-Houssikian, H.; Kotey, P.

Swahili Language

SWA 1120 Beginning Swahili 1. F.
Credits: 5

SWA 1121 Beginning Swahili 2. S.
Credits: 5; Prereq: SWA 1120 (grade of C or better, or S) or the equivalent.

SWA 3240 Spoken Swahili. F.
Credits: 3; Prereq: SWA 1121 (grade of C or better, or S) or the equivalent.
Intensive training in the pronunciation, idiom and style of contemporary Swahili.

SWA 4850 The Structure of Swahili. S.
Credits: 3; Prereq: LIN 3010 or the equivalent.

Swahili Literature in Translation

SWT 3110 A Survey of Swahili Literature in Translation.
Credits: 3

FORESTRY, WILDLIFE ECOLOGY, RESOURCE CONSERVATION

School of Forest Resources and Conservation

INSTRUCTIONAL STAFF 1981-82

Mace, A.C., Jr., Director; Arvanitis, L.G.; Blakeslee, G.M.; Canfield, D.E., Jr.; Clarke, M.L.; Collopy, M.W.; Dippon. D.R.; Ewel, K.C.; Fisher, R.F.; Flinchum, D.M.; Forrester, D.J.; Gholz, H.L.; Goddard R.E.; Gregory, R.W.; Haller, W.T.; Harris, L.D.; Huffman, J.B.; Jensen, A.S.; Labisky, R.F.; Marion, W.R.; Post, D.M.; Riekerk, H.; Rockwood, D.L.; Shaw, R.B.; Schmidt, R.A.; Schramm, H.L., Jr.; Seaman, W., Jr.; Shireman, J.V.; Smith, W.H.; Sullivan, E.T.; Tanner, G.W.; Webb, R.S.

Forestry and Natural Resources

FNR 3011C Ecological Principles of Natural Resource Management. F.
Credits: 4; Prereq: Completion of the equivalent of one semester each of botany and zoology or two semesters of biology, and SFRC classification or permission of the instructor.
Ecological principles and their application to the management of ecosystems for the optimization of wood fiber, wildlife, grassland and water resources. Includes field introduction to the analysis of a variety of ecosystems.

FNR 3421C Inventory and Analysis of Natural Resources. F.
Credits: 3; Prereq: STA 3023 or equivalent. FNR 3011C or relevant field experience strongly recommended.
Alternative methods for gathering reliable sample data. Sampling efficiency. Computer simulation. Processing, evaluation, and interpretation of sample data for natural resource management.

FNR 4612C Recreational Use of Natural Resources. S.
Credits: 2; Prereq: Senior standing or approval of instructor.
Implications of the increasing use of forest and wildlands for outdoor recreation with special emphasis on the problems of multiple-use management.

FNR 4623C Natural Resource Management. S.
Credits: 4; Prereq: Senior SFRC classification, FOR 4621C or WIS 4541C, or permission of instructor.
An integrative approach to the study of forest resource management for the production of multiple products (such as timber, recreation, wildlife, rangeland, etc.) utilizing the case study approach.

FNR 4660C Natural Resource Policy and Administration. S.
Credits: 3; Prereq: Senior SFRC classification or consent of instructor.
Factors in evolution of forest, range, wildlife and

††Grading is on S-U basis only.

related natural resources administration and policies in the United States; policy components; policy formation implementation, administration and change processes; introduction to criteria for evaluating effectiveness of policies and administration.

FNR 4905 Individual Study. F, S, SS.
Credits: 1 to 4 credits; may be repeated with change of topic up to maximum of 8 credits; Prereq: Permission of instructor.
Individual study of a selected topic related to forest resources and conservation as contracted for with the instructor at the start of the term.

FNR 4931 Seminar. F, S.
Credits: 1; Prereq: Senior status or consent of instructor. May be repeated with change of content up to a maximum of 2 credits.
Current issues, policies, people relationships relative to forest resources conservation, use and development. Oral presentations and written reports required.

FNR 4934 Topics in Forest Resources and Conservation. F, S, SS.
Credits: 1 to 4; may be repeated with change of content up to a maximum of 8 credits.
Selected topics in forestry, wood science, range, recreation, wildlife and fisheries. Topics include special current issues and in-depth study of topics not covered in other courses.

FNR 4941 Internship in Forest Resources and Conservation. F, S, SS.
Credits: 1 to 4††; may be repeated with change of experience up to a maximum of 8 credits.

FNR 4949 Cooperative Education in Forest Resources and Conservation. F, S, SS.
Credits: 1††; May be repeated with change of work program up to a maximum of 3 credits.
Practical co-op work experience related to forest resources and conservation under approval of industrial, business, institutional or government agency supervisor.

GRADUATE COURSES

FNR 5563 Simulation of Ecological Models. F, odd years.
Credits: 3

FNR 5662 Public Involvement in Natural Resource Management. S, odd years.
Credits: 2

FNR 6523C Analysis of Forested Ecosystems. S, odd years.
Credits: 4

FNR 6608 Research Planning for Resource Decisions. F.
Credits: 2

FNR 6905 Research Problems in Forest Resources and Conservation. F, S, SS.
Credits: 1 to 6; Max. 10.

FNR 6910 Supervised Research.
Credits: 1 to 5††

FNR 6933 Seminar.
Credits: 1††

FNR 6934 Topics in Forest Resources and Conservation.
Credits: 1 to 4; Max. 10.

FNR 6940 Supervised Teaching.
Credits: 1 to 5††

FNR 6971 Master's Research.
Credits: 1 to 15††

FNR 7980 Doctoral Research.
Credits: 1 to 15††

††Grading is on S-U basis only.

Forestry

FOR 3003 Introduction to Forestry. F, S.
Credits: 2
Fundamentals of forestry, including history, geography, ecology, and management.

FOR 3120C Dendrology. S.
Credits: 3; Prereq: BOT 2011C or consent of instructor.
Characteristics of the major tree families, genera and major forest types of North America. Includes studies in systematic botany, use of botanical keys, and lab and field identification of woody species.

FOR 3123C Range Plants. F.
Credits: 3; Prereq: BOT 2710 or BOT 2011C or permission of instructor.
Identification of range grasses, forbs, and shrubs; their distribution and habitat requirements, growth characteristics, economic importance, successional status, and response to utilization and management.

FOR 3140C Wood Structure, Properties and Use. F.
Credits: 3; Prereq: BOT 2011C or equivalent.
An introduction to the structure, identification, properties and use of important commercial woods of the United States.

FOR 3333C Fundamentals of Forest Pathology. S.
Credits: 3
Study of major diseases of forest trees with emphasis on recognition, etiology, disease ecology, and control. Should be taken by forestry majors concurrently with Forest Insects — ENY 3541.

FOR 3430C Forest Resource Measurement. S.
Credits: 3; Prereq: SUR 3331, FNR 3421C; Coreq: FOR 3120C; or consent of instructor.
Forest resource inventory techniques; forest sampling designs; tree and stand yield estimation; aerial photogrammetric applications.

FOR 3710C Forest Products Utilization. F.
Credits: 2; Prereq: FOR 3140C.
Descriptions of the wide array of products derived from forest; origin and nature of raw materials; technologies and manufacturing processes.

FOR 4151C Range Ecology. S.
Credits: 4; Prereq: FOR 3123C or approval of instructor.
Interrelationships within and between components of range ecosystems with emphasis on energy production and consumption and ecological concepts pertaining to management.

FOR 4162C Foundations of Silviculture. F.
Credits: 4; Prereq: FNR 3011C, FNR 3421C, FOR 3120C, SOS 3022C.
Biological aspects of tree growth; site as a factor in tree growth; silvicultural systems; modern silvicultural practices; regional silviculture.

FOR 4541C Forest Economics. F.
Credits: 3; Prereq: ECO 2013 and either ECO 2023 or AEB 3103.
The economics of forestry and the forest-product industries. Supply and demand from the viewpoint of the firm. The factors of production in forestry. The application of economic principles to specific problems of forestry.

FOR 4621C Principles of Forest Management. F.
Credits: 3; Prereq: FOR 3430C; Coreq: FOR 4541C, or consent of instructor.
Principles of forest management, forest organization, management plans, sub-division of forest areas, forest regulation, cutting cycles, normal forest.

FOR 4733L Logging and Milling Practice. S.
Credits: 3; Prereq: Approval of instructor.
Care, use, and maintenance of logging and milling tools and equipment; logging and small sawmill operations.

FOR 4753C Forest Operations. F.
Credits: 3; Prereq: Consent of instructor.
An introduction to various operations associated with maintaining, protecting, and managing forests and their interactions with silvicultural systems and environmental factors.

GRADUATE COURSES
Structured courses may be offered in alternate years.

FOR 5124C Range Grasses and Grassland Ecology. F, even years.
Credits: 3

FOR 5625C Forest Water Resources Management. SS, even years.
Credits: 3

FOR 5626C Range Resource Management. S, odd years.
Credits: 3

FOR 6167 Silviculture. S, odd years.
Credits: 3

FOR 6170 Tropical Forestry. S, even years.
Credits: 3

FOR 6310 Forest Genetics 1. F
Credits: 3

FOR 6337 Forest Pathology. S, odd years.
Credits: 4

FOR 6340 Physiology of Forest Trees. S, even years.
Credits: 3

FOR 6453 Forest Mensuration. F, even years.
Credits: 3

FOR 6543 Economic Analysis of Forest Operations. S, even years.
Credits: 3

FOR 6742 Wood Protection and Preservation.
Credits: 3

FOR 6746 Wood Science.
Credits: 3

Wildlife Science

WIS 2040 Man and Wildlife Resources. F.
Credits: 2
Broad review of man's perception and use of wildlife. Emphasis given to the Florida and Southeastern wildlife resource current management issues.

WIS 3401C Fundamentals of Wildlife Ecology. S.
Credits: 3; Prereq: BSC 2011C or consent of instructor.
Wildlife as a natural resource, with emphasis on principles of conservation, ecology, and management.

WIS 4220C Introduction to Fishery Science. S.
Credits: 3; Prereq: Junior standing in SFRC, or consent of instructor.
Fishery problems in sport, commercial, culture, exotic and ecological systems. Field and laboratory techniques to describe population size and distribution, production, growth, feeding, movement, and reproduction. Management of freshwater and marine fishery resources.

WIS 4443C Wetland Wildlife Resources. S.
Credits: 3; Prereq: WIS 3401C or approval of instructor.
Principles and problems associated with the conservation and management of wildlife in wetland environments, with special emphasis on multiple-use management strategies of wetland resources.

WIS 4541C Terrestrial Wildlife Resources. F.
Credits: 3; Prereq: WIS 3401C.
Principles and problems associated with the conservation and management of wildlife in ter-

restrial environments, from urban areas to wilderness, with emphasis on the ecological relationships underlying management strategies.

GRADUATE COURSES

WIS 5232C Fish Management. S, even years.
Credits: 4

WIS 5323C Impact of Diseases on Wildlife Populations. S, odd years.
Credits: 3

WIS 6241 Fish Ecology. S, odd years.
Credits: 3

WIS 6452 Wildlife Ecology. F, odd years.
Credits: 3

WIS 6456 Wildlife Population Analysis. S, even years.
Credits: 3

WIS 6457 Wildlife Behavior. S, even years.
Credits: 3

FRUIT CROPS
College of Agriculture

INSTRUCTIONAL STAFF 1981-82

Burke, M.J., Chairman; Biggs, R.H.; Buchanan, D.W.; Crocker, T.E.; Davies, F.S.; Jackson, L.K.; Koch, K.A.; Lyrene, P.M.; Martsolf, J.D.; Moore, G.A.; Soule, J.; Wiltbank, W.J.; Young, M.J.

FRC 3212 Introduction to Citrus Culture. F.
Credits: 3; Prereq: BOT 1010 or BSC 2010 or consent of instructor.
Citrus botany, varieties and rootstocks of citrus as they relate to static decision-making processes in grove management.

FRC 4223 Citrus Production. S.
Credits: 3; Prereq: FRC 3212.
A study of the various practices comprising a Florida citrus production program. Major topics include fertilization, cultivation, irrigation, pest management, pruning and harvesting.

FRC 4224L Field Production Practices in Fruit Crops. S.
Credits: 2; Prereq: FRC 3212.
Diagnosis of orchard problems, tissue and soil sampling, use of equipment in plant protection, morphology of fruiting plants and measurement of environmental parameters important to fruit culture.

FRC 4244 Citrus Production, Harvesting and Research in Florida. SS.
Credits: 4; Prereq: FRC 3212.
A comprehensive study of Florida citrus production, harvesting and research conducted at the Agricultural Research and Education Center in Lake Alfred and field locations in Florida. Students will be in residence for 5 weeks at the Center. (Offered in odd-numbered years.)

FRC 4251 Tropical and Temperate Zone Fruit Crops. S.
Credits: 4; Prereq. or coreq: FRC 4223 or permission of instructor.
Culture, harvesting and handling of tropical and temperate zone fruit crops, with emphasis on horticultural principles in their production and utilization.

FRC 4411 Physiology of Fruit Production. S.
Credits: 3; Prereq: FRC 3212 or permission of instructor and BOT 3503C.
Principles of plant physiology important to the commercial production of fruit crops. Introduction to physiological processes in perennial fruiting plants and use of physiological considerations in grove management.

FRC 4612 Citrus Maturity and Packinghouse Procedures. F.
Credits: 4; Prereq: FRC 3212.
Citrus fruit maturity and grade factors affecting market quality, laws regulating shipping and sale; harvesting and operation of commercial packinghouses.

FRC 4905 Special Problems in Fruit Crops. F, S, SS.
Credits: 1 to 3; Maximum of 6 credits.
Open only to seniors with consent of instructor.

FRC 4931 Undergraduate Seminar in Fruit Crops. F.
Credits: 1

FRC 4933 Citrus Production and Harvesting Management Seminar. S.
Credits: 2; Prereq. or coreq: FRC 4223.
Current practices employed in the Florida citrus industry. Topics include cultural practices, harvesting, labor relations, management, budgeting and records with guest lecturers from the Florida citrus industry.

FRC 4941 Full Time Practical Work Experience in Fruit Crops. F, S, SS.
Credits: 1 to 4††; Prereq: Prior arrangement with advisor and approval of Department Chairman and Dean.

GEOGRAPHY
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Marcus, R.B., Chairman; Pirkle, E.C., Associate Chairman; Abbott, E.F.; Antonini, G.A.; Caviedes, C.N.; Dunkle, J.R.; Dupree, H.C.; Eoff, K.M.; Golant, S.M.; Henry, J.A.; Lamme, A.J.; Lindquist, R.C.; Niddrie, D.L.; Olsson, C.N.; Paganini, L.A; Peterson, L.R.; Roberts, L.H.; Smith, N.J.H.; Spurlock, C.W.

Undergraduate Coordinator: L.A. Paganini

Undergraduate degree requirements:

In addition to satisfying the college requirements and the general university requirements for graduation, geography majors are required to follow one of the following courses of study.

Bachelor of Arts: GEO 2200, GEO 2200L, GEO 4100, GEO 4124, GEO 4164, PSC 2191L. Three courses from GEO 3502, GEO 3602, GEO 3370, GEO 3430, GEO 3471, GEA 3223. Select one regional course; select one course from 1000-2000 (not GEO 2200) electives in Geography for a total of 32 hours in Geography.

Bachelor of Arts (with teacher certification): GEO 2200, GEO 2200L, GEO 4100. Select three of the following: GEO 4124, GEO 4164, GEO 4905(1) + GEA 3270, GEO 4905(1) + GEA 3210. Select two of the following: GEO 3502, GEO 3602, GEO 3370, GEO 3471, GEO 3430, GEA 3223, GEO 3315. Select one of the following: GEA 3210, GEA 3223, GEA 3410, GEA 3464, GEA 3504, GEA 3600, GEA 3624, GEA 3753. Select one course from 2000 (not GEO 2200) level in Geography for a total of 32 hours. In addition, students seeking certification must complete the required education courses satisfactorily. (Note: test requirements for education program.)

Bachelor of Science: GEO 2200, GEO 2200L, GEO 4100, GEO 4124, GEO 4164, PSC 2191L. Select two of the following: GEO 4201, MET 4002, GEO 3370, SOS 3007. Select one course from 1000-2000 (not GEO 2200) level in Geography and one regional course from 3000-4000 level in Geography. Select either ISC 2401 or one Chemistry course from 2000 series. Total hours 32 or 33 including Chemistry requirement.

Bachelor of Science (with teacher certification): GEO 2200, GEO 2200L, GEO 4201. Select three of the following: GEO 4100, GEO 4124, GEO 4164, GEO 4905(1) + GEA 3270, GEO 4905(1) + GEA 3223. Select two of the following: GEO 3502, GEO 3602, GEO 3370, GEO 3471, GEO 3430, GEA 3223. Select one of the following: GEA 3210, GEA 3223, GEA 3410, GEA 3464, GEA 3504, GEA 3600, GEA 3624, GEA 3753. Select one course from 2000 (not GEO 2200) level in Geography for a total of 31 hours. In addition, students seeking certification must complete the required education courses satisfactorily. (Note: test requirements for education program.)

Departmental honors: In addition to satisfying the college requirements for graduation and the requirements for the degree of Bachelor of Arts or Bachelor of Science, with a major in Geography, the student wishing to graduate with departmental honors must fulfill the following requirements: Attain the grade point average required by the college for graduation with departmental honors;

Participate in at least three courses within the department for honors credit of which at least one course must be at the 3000-level and one course at the 4000-level;

Complete a senior honors thesis no later than the third week before graduation;

Present the results of the research culminating in the senior honors thesis no later than the second week before graduation;

Complete, with a grade of "A," GEO 4970 (Honors Thesis).

The student shall, in consultation with the undergraduate coordinator and his advisor, select three members of the faculty to serve as a committee to evaluate the honors thesis. Normally, these faculty will also serve as advisors in the preparation of the thesis as well.

Geography-Regional (Area)

GEA 3210 Geography of the United States and Canada. F.
Credits: 3
A comprehensive and systematic survey of the physical, economic and social character of the geographic regions of the United States and Canada; the significance of these countries in the economic and political affairs of the world.

GEA 3223 Historical Geography of the United States. S.
Credits: 3
A survey of the cultural geography of the American past. Characteristics of colonizations, settlement patterns, resource development and culture groups in the evolving regional pattern.

GEA 3270 Geography of Florida. F, S, SS.
Credits: 3
The geographic conditions and human adjustments in the major regions of Florida. The natural environment, population, routes of communication, industries, resources, and strategic location in their geographical and historical aspects.

GEA 3300 Geography of Middle America and the Caribbean. S.
Credits: 3
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of Middle America and the Caribbean; the significance of this region in the economic and political affairs of the world.

GEA 3410 Geography of South America. F.
Credits: 3
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of South America; the significance of this region in the economic and political affairs of the world.

GEA 3464 Environment and Societies in Latin America. S.
Credits: 3
Systematically-oriented course in which selected environmental and societal topics are placed in geographical context in order to give student a broad understanding of Latin American landscape.

††Grading is on S-U basis only.

Descriptions

GEOGRAPHY

GEA 3504 Geography of Europe. S.
Credits: 3
A comprehensive and systematic survey of the population, natural resources, geographic regions and potentialities of Europe; the significance of this region in the economic and political affairs of the world.

GEA 3554 Geography of the U.S.S.R. F.
Credits: 3
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of the U.S.S.R.; the significance of the U.S.S.R. in the economic and political affairs of the world.

GEA 3600 Geography of Africa. F.
Credits: 3
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of Africa; the significance of this region in the economic and political affairs of the world.

GEA 3624 Geography of the Near East. S.
Credits: 3
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of the Near East; the significance of this region in the economic and political affairs of the world.

GEA 3753 Geography of the Far East. F.
Credits: 3
A comprehensive and systematic survey of the population, natural resources, geographic regions, and potentialities of the Far East; the significance of this region in the economic and political affairs of the world.

GEA 4684 Geography of Southern Africa. S.
Credits: 3; recommended ANT 4352.
An intensive study of the landscape, natural resources, population, historical geography and industrial development of Southern Africa.

GRADUATE COURSES

GEA 6109 Tropical Lands and Their Utilization. SS.
Credits: 1-10; maximum of 10 credits.

GEA 6179 Seminar: Developing Nations. S.
Credits: 3; maximum of 10 credits.

GEA 6219 Seminar: United States and Canada.
Credits: 3

GEA 6309 Seminar: Middle America and the Caribbean.
Credits: 3

GEA 6419 Seminar: South America.
Credits: 3

GEA 6468L Resource Utilization and Conservation in Latin America.
Credits: 3

GEA 6469 Seminar: Land, Man, and Migration in Latin America.
Credits: 3

Geography-Systematic

GEO 1000 Geographic Concepts. F.
Credits: 1
Basic concepts in geography. An opportunity to discover the significance of geographic ideas applicable to living in today's world.

GEO 1010 Geography for a Changing World. F, S, SS.
Credits: 3
The spatial organization of society. Emphasis is placed upon the political regions of the world

GEO 2200 Physical Geography. F, S, SS.
Credits: 3
A study of the development and distribution of landforms, climates, minerals, soils, and water resources. Interrelationships among the elements of the physical environment and regional patterns formed by these elements are analyzed against the background of man's utilization of them.

GEO 2200L Physical Geography Laboratory. F, S.
Credits: 1
Laboratory in physical geography. May be taken independently of GEO 2200. Available for laboratory science credit.

GEO 2201 Physical Landscapes. F, S.
Credits: 3
A study of physical landscapes with emphasis on the physical landscapes of the United States. Considers the materials composing landscapes, processes fashioning landscapes, resources, and influences of physical landscapes on society.

GEO 2410 Social Geography. F.
Credits: 3
Introduction to geography as a social science. Various social concepts presented from a spatial perspective.

GEO 2420 Geography of World Societies. F, S, SS.
Credits: 3
An introduction to cultural geography with an emphasis upon the development and spatial arrangement of the major societies of the modern world.

GEO 2421 Geography of World Societies. F, S, SS.
Credits: 3; (Special Services Courses)
Content consistent with goals of GEO 2420, structured to the abilities of qualified students. Admission by invitation only.

GEO 2500 Geography of World Economies. F, S, SS.
Credits: 3
A general geographic survey of the major economies of the modern world with an emphasis on the spatial analysis of economic activities.

GEO 2932 Honors: Geography. F, S.
Credits: 3; Prereq: Permission of Instructor.
For students electing to participate in the undergraduate honors programs.

GEO 3315 Cultural Plant Geography. S
Credits: 3
Study of the biological structure, means of survival, propagation and distribution of plants, with emphasis on their influence on the culture and diffusion of man throughout the world and his part in their development and improvement.

GEO 3333 Geographic Perception of the Urban Environment. S.
Credits: 3
An examination of an individual's or group's perception of the social and physical environment. The course will include a brief examination of psychological ramifications of perception but will concentrate on the geographical aspects.

GEO 3370 Conservation of Resources. S, SS.
Credits: 3; Prereq: Sophomore standing or permission of instructor.
A survey of natural and human resources followed by study of wise and wasteful practices of utilization of these resources. Course satisfies resource certification for social studies teachers.

GEO 3430 Population Geography. S.
Credits: 3
World-wide distribution of population; the areal distribution of populations in relation to the features of the environment in selected areas; problems of adjustment; population-supporting capacity.

GEO 3471 Political Geography. S.
Credits: 3
A survey of the impact of geographical influences upon the establishment and functioning of sovereign states and dependent areas in order to give a background for the intelligent comprehension of current events.

GEO 3502 Economic Geography. F.
Credits: 3
A comparative geographical survey of major economic activities such as agriculture, forestry, fishing, mining, manufacturing, and commerce. Emphasis will be upon the study of the characteristics of distribution and the regional patterns of these activities.

GEO 3602 Urban Geography. F, S.
Credits: 3
An empirical and theoretical spatial analysis of the various economic, population and social facets within and between urban settlements.

GEO 4100C Maps and Graphs. F, S.
Credits: 4; Prereq: Junior standing or permission of instructor.
Analyses of cartographic problems with exercises in techniques of presentation. Map projections and symbols. Problems in statistical representation by graphic methods.

GEO 4124C Air Photo Interpretation. F.
Credits: 4; Prereq: GEO 2200, or permission of instructor.
Principles of aerial photography; identification and interpretation of physical and cultural features; sketching and simple map-making and uses of aerial photography.

GEO 4164 Quantitative Analysis of Geography. F, S.
Credits: 4; Prereq: STA 3013, or permission of instructor.
Use of quantitative methods in geography with evaluation of statistical techniques in geographic research.

GEO 4201C Advanced Physical Geography. F.
Credits: 3; Prereq: GEO 2200.
Analysis of environmental systems and processes. The significance of geographical factors in man-environment interactions. Problems of environmental quality in a geographic context.

GEO 4905 Individual Work. F, S, SS.
Credits: 1 to 5; For undergraduates only. Prereq: 9 semester hours of geography and permission of instructor.
Qualified students and the instructor concerned may choose a particular topic or problem for study. May be repeated with change of content up to a maximum of 15 credits.

GEO 4930 Senior Seminar. F, S.
Credits: 1; Prereq: Senior standing; majors only.
Integration of geographic concepts for graduating seniors; provides introduction to professional geography for students entering the job market.

GEO 4938 Selected Topics in Geography.
Credits: 1 to 4; May be repeated with change of content up to a maximum of 8 credits.

GEO 4944 Internship. F, S, SS.
Credits: 1 to 10; Prereq: Senior standing.
Experiential learning in position with city, county, regional and state government agencies.

GEO 4970 Honors Thesis. F, S, SS.
Credits: 3; Prereq: Senior standing and participation in departmental honors program.
Completion of an honor thesis, meeting departmental specifications, during the semester in which the student is enrolled.

Interdisciplinary Natural Science

ISC 2453 Physical Science: Energy and Society. F.
Credits: 3
A study of energy, its sources and utilization, the interconversion of the forms of energy, the circumstances which have led to energy shortages, the political and social effects of the energy crisis, and the outlook for the future.

ISC 3455 Water and Society. S.
Credits: 3
This course introduces some of the basic considerations of water as a part of society's resource

base. The course includes properties of water, the hydrologic cycle, available supply, distribution of supply, water uses, management strategies, water quality, and water problems of the future.

Meteorology

MET 4002 Climatology. F.
Credits: 3; Prereq: MET 1010 or GEO 2200 or permission of instructor.
Genesis of regional climates and their global distribution. Emphasis on world regional climatology; secondary topics: applied climatology and climate change.

Physical Sciences

PSC 3402 Space and Society. S.
Credits: 3
This course considers the extent of man's exploration of the environment of extraterrestrial space. The present uses of the environment of space are stressed, and the possible future endeavors of man in this new environment are explored.

GRADUATE COURSES

GEO 5105C Advanced Cartography.
Credits: 3

GEO 5125C Advanced Air Photo Interpretation.
Credits: 3

GEO 5145C Remote Sensing.
Credits: 3

GEO 5166C Advanced Quantitative Analysis in Geography.
Credits: 3

GEO 5437C Research Methods in Population Geography.
Credits: 3

GEO 5567 Industrial Location
Credits: 3

GEO 5605 Advanced Urban Geography.
Credits: 3

GEO 5704 Transportation Geography.
Credits: 3

GEO 5809 Geography of World Agriculture.
Credits: 3

GEO 5839 Land Tenure and Rural Settlement.
Credits: 3

GEO 5905 Individual Study.
Credits: 3; Maximum of 15 credits.

GEO 5930 Selected Topics in Geography.
Credits: 1 to 5; maximum of 15 credits.

GEO 5945C Field Course in Geography.
Credits: 3

GEO 6058 History of Geographical Thought.
Credits: 3

GEO 6118C Introduction to Geographical Research.
Credits: 3

GEO 6356 Seminar: Land and Water Utilization.
Credits: 3

GEO 6429 Seminar: Cultural Geography.
Credits: 3

GEO 6435 Seminar in Population.
Credits: 3

GEO 6509 Seminar: Economic Geography.
Credits: 3

GEO 6905 Individual Work.
Credits: 1 to 5; Maximum of 15 credits.

GEO 6910 Supervised Research.
Credits: 1 to 5††

GEO 6938 Selected Topics in Geography.
Credits: 1 to 5; maximum of 15 credits.

GEO 6940 Supervised Teaching.
Credits: 1 to 5††

GEO 6946 Individual Field Work.
Credits: 3; Maximum of 15 credits.

GEO 6971 Master's Research
Credits: 1 to 15††

GEO 7980 Doctoral Research.
Credits: 1 to 15††

GEOLOGY
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Opdyke, Neil D., Chairman; Blanchard, F.N.; Deevey, E.S., Jr.*; Eades, J.L.; Griffin, G.M., Jr.; Jones, D.S.; Lindquist, R.C.*; MacFadden, B.J.*; Mueller, P.A.; Pierce, R.W., Jr.; Pirkle, E.C., Jr.*; Randazzo, A.F.*; Ridge, J.D.; Ruth, B.E.*; Shaak, G.D.*; Smith, D.L.; Spangler, D.P.; Stehli, F.G.*; Wahl, F.M.*; Webb, S.D.* Undergraduate Coordinator: R. W. Pierce, Jr.

*Affiliate faculty members.

Students pursuing a major in Geology may now follow one of two courses of study:

Bachelor of Arts: Designed for those students who do not intend to pursue careers as professional geologists, but who desire training in the geological sciences preparatory to pursuing advanced studies or careers in fields such as earth-science teaching, law, business, or other socio-environmental areas of study. In addition to college and university requirements for graduation, students pursuing the Bachelor of Arts degree must complete the following core geology courses: GLY 2015 or 2991, GLY 2100, GLY 4200-4301, GLY 4400, GLY 4610, and GLY 4511. Credit for GLY 4750 or a summer field course is also required. If a summer field course is not satisfactorily completed, students must complete three additional geology courses at the 4000 level or above. In addition, at least 12 semester hours from among the following courses must be satisfactorily completed: AST 1002, CHM 1020 and 1021, ENV 3003, GEO 4201C, GEO 4124, ISC 2452, MET 4002, PSC 2121, PHY 3032, 2037L, SOS 3003, and BSC 2010. Specific courses selected will depend upon the area of interest of the student.

Bachelor of Science: To meet the minimum requirements for a B.S. in geology, the student must satisfy all College and University graduation requirements as well as the following departmental course requirements: 1) credit in the following core courses or their equivalents: GLY 2015C or 2991C, 2100C, 4400C, 4610C, 4511C. 2) one year of general chemistry (CHM 2040, 2041C, 2042L, 2043C) or CHM 2042C, 2042L, 2043C or 2053C) or (CHM 2051C, 2052C). 3) one year of general physics (PHY 2048, 2049, 2048L, 2049L) or PHY 2053, 2054, 2053L, 2054L) or (PHY 2066C, 2067C). 4) Mathematics, Statistics and Computer Science (MAC 3311, 3312) or (MAC 3311, COP 3110, STA 3023). 5) Technical writing (ENC 3352 or 4357). 6) an approved biological science course may be substituted for the second semester of physics. Specific courses selected among the alternatives given will depend upon the student's primary geologic interest.

Students considering an undergraduate major in geology are urged to contact the undergraduate coordinator, ROOM B131 General Purpose Building "A", as early as possible for program counseling.

To qualify for honors in geology, a student must obtain a 3.3 average in all geology courses. In addition, an approved senior thesis based on original research must be presented to the Department Chairman.

Geology

GLY 1000 Exploring the Geological Sciences. F, S, SS.
Credits: 3
Selected topics in the geological sciences. Designed for the student not majoring in science. May not be counted for credit toward a minimum major in Geology.

GLY 1817 Mineral Resources of the World. S, SS.
Credits: 3
Origin and distribution of mineral resources of the earth; subsequent political, economic, social, and environmental consequences of their exploitation.

GLY 2015C Physical Geology. F, S, SS.
Credits: 4
Materials, structures, surface features of the earth and processes which have produced them. Related laboratory demonstrations and experiences.

GLY 2026 Geology for Engineers. F, S, SS.
Credits: 4
The several fields of geology significant in the location of engineering structures and installations; the identification of common minerals and rocks; the processes of weathering and erosion; structure; surface features and geologic history interpreted from topographic and geologic maps. For engineers.

GLY 2100C Historical Geology. F, S, SS.
Credits: 4; Prereq: GLY 2015C or 2991C or permission of instructor.
Evolution of the earth and its life. The major physical events and evolutionary changes as recorded in the geologic past. Related laboratory demonstrations and exercises.

GLY 2152 Regional Geology of the Southeast. S.
Credits: 1; Prereq: GLY 2015C or GLY 2026 or 2991C and permission of instructor.
Observation and study of geologic features in the field. Course includes an eight day field trip to areas of geologic interest to study the stratigraphy, structure, and geologic history of the southeastern United States.

GLY 2991C Physical Geology — Honors. F, S, SS.
Credits: 4
In-depth discussion of materials, structures, surface features of the earth and processes which have produced them. Related laboratory demonstrations and experiences. Course designed for University Honors Program students only.

GLY 4155 Geology of Florida. F.
Credits: 3; Prereq: GLY 2015C or GLY 2026 or GLY 2991C or permission of instructor.
Principles of physical and historical geology as applied to the geology and mineral resources of Florida.

GLY 4200 Crystallography — General Mineralogy. F.
Credits: 3
Introduction to crystal chemistry, structural, crystallographic, and physical properties of minerals, mineral identification, and a systematic study of rock forming, geologically significant, and economically useful minerals.

GLY 4301 Silicate Mineralogy and Elementary Petrology. S.
Credits: 3; Prereq: GLY 4200.
A continuation of GLY 4200 involving the study of rock-forming silicate minerals and the mineralogy and texture, classification, recognition, occurrence, origin, and alteration of igneous, sedimentary, and metamorphic rocks.

GLY 4400C Structural Geology. S.
Credits: 4; Prereq: GLY 2100C or permission of instructor.
Structural features of the earth, their causes, recognition and interpretation, to include the me-

††Grading is on S-U basis only.

chanics of folding, faulting, and other deformations of the earth's crust.

GLY 4451C Introduction to Geophysics and Tectonics. F, S.
Credits: 3; Prereq: GLY 2015C or GLY 2991C; PHY 2048-49 or PHY 2053-54.
Principles of earth physics and geophysical techniques of exploration, seismology, geomagnetics, gravimetry, geothermometry, equipment familiarity, and field methods. The theory of plate tectonics and relationship of plate boundaries and plate mechanisms to geophysical anomalies.

GLY 4511C Principles of Stratigraphy. F.
Credits: 4; Prereq: GLY 2100C.
Introduction to the concepts of biostratigraphic, lithostratigraphic, geochronologic, and chronostratigraphic units, and their proper definition, purpose, and use in stratigraphic work.

GLY 4515 Stratigraphic Analysis. S.
Credits: 3; Prereq: GLY 2100C and GLY 4511C.
A course in advanced stratigraphy. Emphasis placed upon the detailed study of subsurface sampling techniques (well logs) and the presentation of stratigraphic information through stratigraphic maps.

GLY 4610C Invertebrate Paleontology. F, S.
Credits: 4; Prereq: GLY 2100C or APB 2150-2151.
Characteristics and identification of important groups of invertebrate fossils and their use in the determination of the geological age of sedimentary rocks.

GLY 4700 Introduction to Geomorphology. S.
Credits: 3; Prereq: GLY 2100C.
Description of the earth's major geomorphic features, their origin and evolution, and the geomorphic description and interpretation of topographic maps.

GLY 4750 Geological Field Methods. S.
Credits: 3; Prereq: 15 hours of geology courses.
Techniques used in geological field work.

GLY 4781C Introduction to Photogeology.
Credits: 3

GLY 4790 Geology Summer Field Camp. SS.
Credits: 10; Prereq: GLY 2015C or 2991C, and GLY 2100C, and permission of instructor.
Geological field procedures, techniques, and instruments used in eight weeks of field work in Arizona, Utah, Nevada, and Colorado.

GLY 4800 Economic Geology. S.
Credits: 3; Prereq: GLY 4200 and GLY 4400C.
The geology of ore deposits with emphasis on origin and occurrence.

GLY 4820L Hydrogeology and Human Affairs. S, F.
Credits: 3; Prereq: GLY 1000, GLY 2015C, and GLY 2026 or GLY 2991C.
Introduction to hydrogeology; hydrologic cycle; historical development; water laws; groundwater pollution; water resources evaluation; water and energy relationships; and environmental problems.

GLY 4905 Individual Work. F, S, SS.
Credits: 1 to 3; maximum of 7 credits; Prereq: 15 hours of Geology and permission of instructor.
For work in addition to that offered in regular courses in physiography, mineralogy, petrology, paleontology, stratigraphy, sedimentology, and structural geology. With changes in content, GLY 4905 may be selected for additional credits.

GLY 4930 Special Topics in Geology. F, S, SS.
Credits: 3; Prereq: 3 courses in Geology or permission of instructor.
Lecture, conferences, or laboratory sessions covering selected topics of current interest in modern geology. May be repeated with change in content up to a maximum of 12 credits.

††Grading is on S-U basis only.

GLY 4949L Cooperative Education Work Experience. F, S, SS.
Credits: 1††; Prereq: Freshman and Sophomore Years and a minimum of 8 hours of geology courses.
Practical co-op work experience relating to academic major or career field interest under approved industrial, business, institutional or governmental agency supervision. May be repeated with changed work program upon departmental approval.

Oceanography

OCE 2005 Introductory Oceanography. F.
Credits: 3
History of oceanography; distribution of Earth's land and water; nature and relief of the sea's floor; physical and chemical properties of sea water; sea ice; sound in the sea; tides, currents, and waves; marine sedimentation.

GRADUATE COURSES

Geology

GLY 5221 Optical Crystallography.
Credits: 3; Prereq: GLY 4200 or permission of the instructor.

GLY 5230 Mineralogical Analysis by X-Ray Methods.
Credits: 3; Prereq: GLY 4200 or permission of the instructor.

GLY 5241 Geochemistry.
Credits: 3; Prereq: GLY 2100C and CHM 2043C.

GLY 5450 Introduction to Geophysics.
Credits: 3; Prereq: GLY 2015C or GLY 2991C and one year of college physics or permission of the instructor.

GLY 5516 Stratigraphic Analysis.
Credits: 3; Prereq: GLY 4511C

GLY 5555 Sedimentology.
Credits: 3; Prereq: GLY 4301.

GLY 5640 Vertebrate Paleontology.
Credits: 3; Prereq: ZOO 3703 or GLY 2100C.

GLY 5704 Geomorphology.
Credits: 3; Prereq: GLY 4400C.

GLY 5780C Photogeology.
Credits: 3

GLY 5795 Summer Field Camp
Credits: 10; Prereq: Permission of Instructor

GLY 5820 Ground Water Geology.
Credits: 3

GLY 5860 Principles of Exploration Geophysics. F.
Credits: 3; Prereq: GLY 2015C or GLY 2991C and one year of college physics or permission of instructor.

GLY 6247 Igneous Geochemistry.
Credits: 3

GLY 6250 Mineralogy of Clays.
Credits: 3

GLY 6341 Sedimentology Petrology.
Credits: 3

GLY 6351 Carbonate Sedimentology. F, S.
Credits: 3

GLY 6530 Cenozoic Stratigraphy.
Credits: 3

GLY 6574 Petroleum Geology 2.
Credits: 3

GLY 6620 Micropaleontology.
Credits: 3

GLY 6645 Ancient Vertebrate Faunas.
Credits: 3

GLY 6651 Seminar in Evolution.
Credits: 3

GLY 6660 Paleoecology.
Credits: 3

GLY 6813 Non-Metallic Geologic Materials.
Credits: 3

GLY 6841 Petroleum Geology 1.
Credits: 3

GLY 690S Individual Work.
Credits: 1 to 4; maximum of 12 credits.

GLY 6910 Supervised Research.
Credits: 1 to 5††; maximum of 5 credits.

GLY 6931 Seminar.
Credits: 1††; maximum of 2 credits.

GLY 6932 Special Topics in Geology.
Credits: 1 to 3; maximum of 9 credits.

GLY 6940 Supervised Teaching.
Credits: 1 to 5††

GLY 6971 Research for Master's Thesis.
Credits: 1 to 15††

Oceanography: Geological

OCG 6276 Geological Oceanography.
Credits: 3

CENTER FOR GERONTOLOGICAL STUDIES

GRADUATE COURSES

GEY 6646 Issues and Concepts in Gerontology.
Credits: 3

HEALTH EDUCATION AND SAFETY

College of Physical Education, Health and Recreation

INSTRUCTIONAL STAFF 1981-82

Lafferty, G.F., Chairman; Crone, E.G.; Nuetzel, W.A.; Rienzo, B.A.; Varnes, J.W.

HES 1006 Contemporary Health Issues and Effective Lifestyles. F, S.
Credits: 2 to 4
The weekly core class is designed to give an overview of lifestyle patterns and problems. Small discussion groups are topically oriented according to needs and interests, and will provide opportunity for learning skills in decision making and behavior change.

HES 2000 Personal and Family Health. F, S, SS.
Credits: 3
Current health problems are examined such as drugs, sexuality, nutrition, human ecology, mental health, disease and consumer health.

HES 2001 Community and Environmental Health. F, S.
Credits: 3
A survey of community health organizations and contemporary health issues such as population growth, environment, poverty, medical care and disease.

HES 2400 First Aid and Personal Safety. F, S, SS.
Credits: 2
Approved practices and training in first aid and CPR essential for survival in emergencies and during disasters.

HES 3102 Foundations of Health Education. F, S, SS.
Credits: 2
Survey of theory and practice of the health education profession.

HES 3144 Health and Medical Terminology. F, S, SS.
Credits: 2
Provides a working knowledge of the elements of terms related to the human body in health and disease. Descriptive definitions and applications of practical significance are included, with emphasis on the meaning of word roots and combining forms.

HES 3301 Elementary School Health Program. F, S, SS.
Credits: 3
Limited to those who are working toward teacher certification in elementary education or in health education. Health services, environment and instruction for the school child. Emphasis placed upon health problems of the school age child.

HES 3404 Instructor's First Aid and Emergency Care. F, S, SS.
Credits: 3
Designed to prepare competent and certified instructors in Standard First Aid and Personal Safety, in Cardio-Pulmonary Resuscitation, and in Multi-Media according to American National Red Cross Standards.

HES 3934 Seminar in Health Education. F, S.
Credits: 1; No repeat.
Designed for those students who have selected health as a major or students considering a major in health education. Orientation to the field of health education. Topics include career opportunities, program planning, internship placement opportunities, etc.

HES 3945 Health Counseling and Public Health Field Experience. F, S, SS.
Credits: 4; Prereq: HES 2001.
This course includes a lecture series on counseling techniques related to health problems or issues routinely encountered by the practicing health educator in addition to the field work experienced in local public health agencies.

HES 4302 Methods and Materials in Health Education. F, S, SS.
Credits: 3
Presents methods and materials for utilization by the health educator in the school and the community setting.

HES 4405 Emergency Medical Care I. F, S, SS.
Credits: 3
Initial phase of training that emphasizes the development of student skill in recognition of symptoms of illness, injury and proper procedures of emergency care, presently considered within the responsibilities of emergency medical technicians.

HES 4406 Emergency Medical Care II. F, S, SS.
Credits: 3; Prereq: EMC I.
Final phase of training that emphasizes life threatening emergencies, childbirth and problems of child patients, environmental emergencies, extrication from automobiles, and all operational aspects of the emergency vehicle. Also included in the course will be 15 hours of in-hospital emergency room and ambulatory experience.

HES 4450 Driver and Traffic Safety Education. F, SS.
Credits: 3; Prereq: upper division status and a state driver's license. Limited to students completing a teaching degree and to health education major students.
Analysis of traffic problems. Essential factors in efficient motor vehicle operation including laboratory experiences in simulators, dual control car and on the multiple car driving range.

HES 4451 Teaching Driver and Traffic Safety Education. S, SS.
Credits: 3; Prereq: or Coreq: HES 4450.
Organization, administration and teaching techniques of driver education for public high schools including student teaching.

HES 4510 Consumer Health. F, S.
Credits: 2
Examines resources available to the public for health care and protection, including legitimate components of the health care system, and fraudulent practices.

HES 4540 Drug Education. F, S.
Credits: 2; Limited to students completing a teaching degree, and to health education majors.
Drug education knowledge, skills and procedures emphasize team approaches in methodology for elementary and secondary school, college and community health settings.

HES 4561 Sex Education. F, S.
Credits: 3; Limited to students completing a teaching degree, and to health education majors.
Emphasis on content, issues, methodology and materials for the study of human sexuality in the elementary and secondary schools and community settings.

HES 4905 Variable Topics in Health Education. F, S, SS.
Credits: 2 to 6
Offered upon request of students to meet special interests which are not adequately provided for in other courses.

HES 4946 Community Health Education — Internship. F, S, SS.
Credits: 4 to 16

GRADUATE COURSES

HES 5935 Current Topics in Health Education. F, S, SS.
Credits: 1 to 3

HES 6246 Patient and Disease Education. F, S, SS.
Credits: 4

HES 6165 Issues and Trends in Health Education. S, SS.
Credits: 3

HES 6266 Epidemiology and Community Health. F, SS.
Credits: 3

HES 6328 Health Education in Community and School. S, SS.
Credits: 3

HES 6904 Readings in Health Education. F, S, SS.
Credits: 2, Maximum of 4 credits.

HES 6905 Directed Independent Study.
Credits: 1 to 3; Maximum of 6 credits.

HES 6910 Supervised Research.
Credits: 1 to 5††

HES 6940 Supervised Teaching.
Credits: 1 to 5††

HES 6945 Workshop Series in Health Education.
Credits: 1 to 6

HES 6971 Master's Research.
Credits: 1 to 15††

HEALTH RELATED PROFESSIONS
College of Health Related Professions

INSTRUCTIONAL STAFF 1981-82

Britt, M.S.; Burris, B.; Duncan, P.R.: Finley, M.C.; Fisher, N.P.; Gill, A.A.; Greene, B.R.; Hammer, L.C.; Homer, C.G.; Menks, F.A.; Schmitt, J.P.; Sieg, K.W., Suzuki, H.K.; Veigl, V.; Wagner, J.T.; Wroe, M.C.

The following courses are common to one or more areas of training in the College of Health Related Professions. See Clinical and Community Dietetics, Medical Technology (MLS), Occupational Therapy (OTH), and Physical Therapy (PHT) for additional professional courses in the respective curricula. HSC 1001 is required for clinical and community dietetics, medical technology, and highly recommended for occupational therapy. HSC 4550 is required for occupational therapy. APB 3203 is required for clinical and community dietetics, medical technology, and physical therapy. HSC 4516 and HSC 4517 are required for physical therapy.

Applied Biology

APB 3203 Human Physiology. F.
Credits: 3; Prereq: BSC 2010C.
Physiological function of the major organ systems of the human body. Open to students of the College of Health Related Professions, other Health Center Colleges, and to a limited number of other students by permission of the instructor.

APB 4503 Human Physiology and Dysfunction. S.
Credits: 4; Coreq: HSC 4522C.
Human physiological function and pathogenesis of disease and injury. The mechanisms whereby etiologic agents affect changes resulting in signs and symptoms. Functional rehabilitation is included.

Health Care Administration

HCA 4112 The American Health Care System. F, S.
Credits: 3
Examination of the structure, organization and functions of the system with emphasis on the roles and impact of health care delivery institutions, health care professionals and consumers.

HCA 4203 Dimensions in Health Care Costs. F, S.
Credits: 2
This course is designed primarily to familiarize students with one of the primary responsibilities of health facility managers — financial management. Such an understanding should enable students entering middle management positions to more readily become effective and efficient participants in the achievement of organizational goals.

HCA 4511 Supervisory Skills in Health Care Administration. S.
Credits: 2
Examination of specific supervisory skills required of health care middle managers.

HCA 4614 Introduction to Health Care Planning. F, S.
Credits: 2; Prereq: HCA 4112.
Introduction to the history and contemporary structure of Health Planning, primarily in the American context. Emphasis on area-wide planning.

HCA 4802 Practicum. F, S, SS.
Credits: 2 to 10; Prereq: HCA 4112, HCA 4511 and HSC 4162, or by permission of department chairman.
Supervised practical experience with health care facility middle managers to develop and demonstrate managerial competency.

Health Science

HSC 1001 Introduction to Health Related Professions. F, S.
Credits: 2
Open to all University College students. The current concept of comprehensive care of the ill and disabled. An orientation to the roles of the various health professions.

HSC 4162 The Hospital and Related Organizations. F.
Credits: 2
Analysis of the organization and operation of health care delivery institutions with particular emphasis on the acute care hospital.

††Grading is on S-U basis only.

Descriptions

HEALTH SERVICES ADMINISTRATION

HSC 4390 Ethical Issues in Health Care Delivery. F, S.
Credits: 3
An examination of ethical issues impacting on the provision of health care services, including quality of life, informed consent, right to life, individual vs. societal rights, etc.

HSC 4391 Social Issues in Health Care. SS.
Credits: 3
Examination of pertinent social issues impacting on health care with emphasis on social attitudes, consumer rights and environmental concerns.

HSC 4516 Medical/Surgical Disorders I. S.
Credits: 4; Prereq: PHT 3100.
Medical lectures on the etiology, pathology, symptomatology and treatment of orthopedic, medical and surgical conditions. Labs relate physical therapy methods to the above conditions.

HSC 4517 Medical/Surgical Disorders II. F.
Credits: 4; Prereq: HSC 4516.
Medical lectures on etiology, pathology, symptomatology and treatment of neurological, medical and surgical conditions. Labs relate physical therapy methods to the above conditions.

HSC 4522 The Nervous System and Disorders.
Credits: 4; Prereq: OTH 4412 or PHT 3100 or permission of instructor.
Structure of the human nervous system and relationship to function.

HSC 4550 Psychiatric Disorders. S.
Credits: 3; Prereq or Coreq: OTH 3200C, OTH 3201 or permission of instructor.
Study of major psychiatric syndromes and their management. The continuum of disorders from health to psychopathology.

HSC 4573 Research and Evaluation in Health Services Administration S.
Credits: 4; Prereq: For Seniors only.
Introduction to basic methods of research and evaluation in health services administration.

HSC 4905 Individual Study in Health Related Professions. F, S, SS.
Credits: 1 to 8; Prereq: Permission of Chairman of Department or Dean.
Supervised program of studies to investigate problems significant to health related professions. May be repeated with change of content up to a maximum of 16 credits.

HSC 4930 Special Topics. F, S, SS.
Credits: 1 to 4; Prereq: Permission of Department heads or Dean.
May be repeated with change of content up to a maximum of 10 credits.

GRADUATE COURSES

HSC 6905 Individual Study in Health Related Professions.
Credits: 2 to 4; Maximum of 10 credits.

HSC 6910 Supervised Research.
Credits: 1 to 5††

HSC 6939 Special Topics. F, S, SS.
Credits: 1 to 4; Prereq: Permission of Department heads or Dean.

HSC 6940 Supervised Teaching.
Credits: 1 to 5††

HEALTH SERVICES ADMINISTRATION
College of Health Related Professions

INSTRUCTIONAL STAFF 1981-82

Greene, B.R., Chairman; Champion, J.M.; Crandall, L.A.; Duncan, R.P.; Elnicki, R.A.; Garrigues, R.A.; Homer, C.G.; Ives, J.E.; Kilpatrick, K.E.; Randall, M.J.; Schmitt, J.P.; Swain, R.W.; Whan, A.R.

††Grading is on S-U basis only.

Health Care Administration
GRADUATE COURSES

HCA 6101 Perspectives in Health Services Administration. F.
Credits: 3

HCA 6201 Financial Administration of Health and Hospital Care. SS.
Credits: 3

HCA 6302 Hospital Organization and Management. S.
Credits: 3

HCA 6401 Introduction to Rehabilitation Facility Administration. F.
Credits: 2

HCA 6433 Health and Disease. S.
Credits: 3

HCA 6611 Health Planning. F.
Credits: 3

HCA 6691 Seminar in Health and Hospital Administration. F, S, SS.
Credits: 2

HCA 6811 Residency in Health and Hospital Administration. H. F, S, SS.
Credits: 3††

HCA 6905 Individual Study in Hospital Administration. F, S, SS.
Credits: 2

HCA 6930 Special Topics in Health Services Administration. F, S, SS.
Credits: 1 to 3

HISTORY
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Colburn, D.R., Chairman; Amelang, J.S.; Blakey, A.F.; Burns, A.M. III; Bushnell, D.; Chalmers, D.M.; Chang, R.T.; Conroy, S.S.; Cox, M.G.; Davis, R.H., Jr.; Doherty, H.J.; Entner, M. L.; Funk, A.L.; Gabianelli, V.J.; Gannon, M.V.; Geary, P.J.; Giles, G.J.; Gregory, F.G.; Hall, K.L.; Hatch, R.A.; Henry, G.S.; Hoffman, G.J.; Johnson, I.; McAlister, L.N.; McGuiness, D.M.; McKnight, S.A.; Macaulay, N.W., Jr.; Mahon, J.K.; Paul, H.W.; Peek, R.L.; Pleasants, J.M.; Pozzetta, G.E.; Proctor, S.; Savitt, T.L.; Schaub, J.H.; Sidman, C.F.; Sommerville, C.J.; Sturgill, C.C.; Suarez, A.; Thursby, G.E.; Turner, E.R.; Wilson, H.W.; Woodruff, W.

A history major consists of a minimum of 32 semester hours. Majors are required to take at least two courses in American history (AMH), two in European history (EUH), and two in areas outside United States and European history (i.e., courses designated ASH, AFH, or LAH). Students are also required to complete HIS 2152 and to take a minimum of fifteen credits at the 3000 or 4000 levels. Transfer students must take a minimum of 18 credits at the University of Florida. Candidates for honors must take HIS 4114, have a minimum upper division GPA of 3.5, and write a senior thesis (HIS 4970). In cases where history coursework and the senior thesis have been of exceptional merit, the Departmental Honors Committee may recommend to the Dean that high honors be awarded. Majors wishing to concentrate in history of science, technology, and medicine should consult the section in the catalog immediately following the history course offerings.

Prospective majors should consult a departmental adviser as early as possible. Each student is required to have a graduation interview with an undergraduate adviser during his final semester.

While allowing much freedom to the individual student in shaping the major, the Department of History does urge that careful consideration be given to the range of subjects studied. The aim should be for a balance between diversification and specialization. It is assumed that a student will want to concentrate eventually on a particular area of history; indeed, without careful and detailed examination, it is not possible to appreciate the complexities of the historical process and the difficulties of interpretation. Conversely, the close study of a single culture will give the student a narrow and provincial view, without the comparative knowledge drawn from an acquaintance with other periods and societies, including pre-industrial ones. One cannot understand the development of any one society in isolation from others. Further advice may be obtained from the Department's undergraduate advisers if desired, especially with regard to possible areas of concentration, such as business and labor history, military history, the history of ideas, social history, and ethnic and minority affairs.

African History

AFH 2003 Africa in World History.
Credits: 3
A one-semester introduction to African history for undergraduates. By focusing upon major historical themes, this course will enable students to link the history of African societies with other world civilizations.

AFH 3100 Africa to 1800. F.
Credits: 3
Ancient Africa, the expansion of Islam, savannah kingdoms, East African trading cities, maritime contacts with Europe, the slave trade.

AFH 3200 Africa Since 1800. S.
Credits: 3
The end of the slave trade and the growth of "legitimate" commerce; Islamic renewal and revolution; the European partition and the colonial era; the growth of nationalism and the reemergence of independent Africa.

AFH 4250 Modern Africa.
Credits: 3
Selected topics in 19th and 20th century African development: pre-colonial conditions, colonial rule, nationalist movements and the problem of independence.

AFH 4450 Southern Africa.
Credits: 3
The history of Southern Africa from the pre-European era to the present.

GRADUATE COURSES

AFH 5934 Topics in African History.
Credits: 3

AFH 6934 Africa.
Credits: 4

American History

AMH 2010 United States to 1877. F, S, SS.
Credits: 3
A survey of the development of the U.S. from its colonial origins to the end of Reconstruction.

AMH 2020 United States Since 1877. F, S, SS.
Credits: 3
A survey of the emergence of modern America as an industrial and world power; the Progressive era; WW I; great depression and New Deal; WW II; and the cold war era.

AMH 3160 Jacksonian America.
Credits: 3
The main trends in political, economic and social history in the United States from the close of the War of 1812 to the beginning of the Civil War.

AMH 3315 American Popular Culture to 1970.
Credits: 3
A survey of the interests and amusements of the common man in the United States from the camp meeting to the rock festival, from the tent show to the television program.

AMH 3318 Social History of American Law.
Credits: 3
A survey of American legal development and its correlation with social and cultural history from 1700 to the present. Emphasis is on property law; hence, economic development provides the framework for this course.

AMH 3357 History of the American Presidency.
Credits: 3
A survey of the presidency from the Constitutional Convention of 1787 to the present. Emphasis placed on the men and the times and their impact on the evolution of the office.

AMH 3422 Florida to 1845.
Credits: 3
Exploration and settlement, colonial history of Spanish and British Florida, U.S. territorial days to statehood.

AMH 3423 Florida Since 1845.
Credits: 3
Statehood and secession, Civil War, Reconstruction, reform and reaction, Progressive Era, boom and bust, diversification and growth of Florida since World War II.

AMH 3427 Selected Topics in Florida History.
Credits: 3
Directed reading from sources and in-depth examination of selected periods and problems in Florida history.

AMH 3444 The Far West. S.
Credits: 3
A history of the nineteenth-century trans-Mississippi West with special attention to the exploration, acquisition and settlement of the Great Plains. Emphasis on the Mexican War, Manifest Destiny, economic development and the impact of the white man on Indian cultures.

AMH 3460 U.S. Urban History.
Credits: 3
Analysis of the growth and development of urban civilization in the U.S. Emphasis on how cities began and their impact on politics, economics, and culture.

AMH 3523 History of American-East Asian Relations.
Credits: 3
The foreign relations of the United States with China, Korea, and Japan from the late eighteenth century to the present.

AMH 3530 Immigration and Ethnicity in American History.
Credits: 3
A historical survey of America's minorities, including analyses of assimilation, ethnic identification, pluralism, and nativism.

AMH 3578 Problems in Afro-American History.
Credits: 3;
A reading-and-discussion course with primary focus on the question of black nationalism versus assimilation, with concentrated attention to issues and movements and to the conditions of Afro-American accommodation and resistance.

AMH 4041 Studies in American Civilization. F.
Credits: 3
Examination of periods, themes, and movements in U.S. history, using concepts and data from the humanities and social sciences.

AMH 4110 Colonial America. F.
Credits: 3;
Description and analysis of the origins of the Anglo-North American colonies; development of colonial society, economy, culture and institutions and their impact on Amerindians; international rivalry for North American supremacy.

AMH 4130 American Revolutionary Era. S.
Credits: 3
The Great War for Empire and post-war adjustments, deterioration of relations between the colonies and England, 1763-75; War for Independence; government under the Articles of Confederation and the movement for constitutional revision.

AMH 4172 Era of the American Civil War.
Credits: 3
A reading and discussion course with emphasis on U.S. politics from 1850 to 1876. Topical focus on expansion and conflict; nativism; steps toward separation; military and policy aspects of the War; the conflicting goals of reconciliation and freedom; constitutional problems; the political economy of Reconstruction during the Grant era.

AMH 4220 U.S. Populist Era to World War I.
Credits: 3
The Populist era; Progressivism; WW 1.

AMH 4231 U.S., World War I to World War II.
Credits: 3
Post-World War I America; the twenties; depression and New Deal; WW II.

AMH 4270 U.S. Since World War II.
Credits: 3
Post-World War II America; America as world power; social revolution, Vietnam, Watergate and after.

AMH 4307 U.S. Social and Intellectual History to the Civil War.
Credits: 3
Colonial religious and social structure, Enlightenment, revolution, constitutionalism, liberalism, emergence of a national culture, age of reform.

AMH 4309 U.S. Social and Intellectual History Since the Civil War.
Credits: 3
Darwinism, pragmatism, progressivism, nationalism, cultural relativism, New Deal, post-World War I search for standards.

AMH 4402 The South to 1860.
Credits: 3
Development of Southern culture from the earliest settlements to the development of Southern nationalism.

AMH 4403 The South Since 1860.
Credits: 3
Impact of Civil War and Reconstruction; economic, political, and social development of the New South.

AMH 4426 Undergraduate Seminar in Florida Studies.
Credits: 3; Prereq: Minimum of 12 credits in Florida Studies Certificate program.
Topics and themes of Florida's past as well as contemporary issues are examined from an interdisciplinary perspective. Individual projects will be emphasized.

AMH 4546 U.S. Military Policy in War and Peace I.
Credits: 3
From European background in the eighteenth century through the Civil War. Not drum-and-trumpet history, but the relationship of military institutions to the rest of U.S. history. Emphasizes the search for peace as well as war.

AMH 4547 U.S. Military Policy in War and Peace II.
Credits: 3
Since 1865. Emphasizes the managerial revolution at the end of the nineteenth century, the hypertrophy of war, and introduces modern defense and peace problems.

AMH 4571 Slavery and Civil War. F.
Credits: 3
Biracial settlement of the South, a minority within a minority; north of slavery, abolitionist crusade, sectional controversy, the War, and why the North won.

AMH 4572 Reconstruction and Race Relations, 1862 to the Present. S.
Credits: 3
Congressional Reconstruction and the Freedman under Lincoln, Johnson and Grant: the legend and reality of "Radical" Republican policy toward the Negro. The Era of Segregation, 1862-1954. The Civil Rights Movement and the Second Reconstruction: black protest and the nation's response.

AMH 4935 Undergraduate Seminar in American Civilization. S.
Credits: 3
Topics and themes of the American past examined from interdisciplinary perspectives. Individual projects based on student training and interest will be emphasized.

GRADUATE COURSES

AMH 5905 Special Studies.
Credits: 3

AMH 5930 Topics in U.S. History.
Credits: 3

AMH 6117 The English Colonies.
Credits: 4

AMH 6149 United States, Early National.
Credits: 4

AMH 6169 United States, The Middle Period.
Credits: 4

AMH 6179 United States, Division and Reunion.
Credits: 4

AMH 6201 The Emergence of Modern America.
Credits: 4

AMH 6239 America Between the Wars.
Credits: 4

AMH 6279 America Since 1945.
Credits: 4

AMH 6379 The United States in the World Economy, 1783-1980.
Credits: 4

AMH 6393 Seminar in American Thought.
Credits: 4.

AMH 6498 Seminar in United States Urban-Ethnic History.
Credits: 4

AMH 6549 Seminar in the History of American Military Policy.
Credits: 4

Asian History

ASH 3301 East Asian Civilizations to 1800, I. F.
Credits: 3
The historical and cultural development of China to 1800.

ASH 3302 East Asian Civilizations to 1800, II.
Credits: 3
The historical and cultural development of Korea and Japan to 1800.

ASH 3303 East Asian Civilizations Since 1800. S.
Credits: 3
The historical development of China and Korea under the impact of the West since 1800.

ASH 3441 Japan 1600-1895. F.
Credits: 3
Japan's first encounter with the West, the proscription of Christianity, the Bakuhan system, Japan's second encounter with the West, the Meiji restoration and the growth of the Neiji state, the First Sino-Japanese War.

ASH 3442 Japan Since 1895. S.
Credits: 3
Japan's search for equality with the West, the Russo-Japanese War, the Taisho Democratic Movement, from Mukden to Pearl Harbor, the Pacific War, the American occupation, and Japan as an economic power.

Descriptions

HISTORY

ASH 3521 India to 1857.
Credits: 3
A thematic and historical introduction to the culture and society of the subcontinent of South Asia.

ASH 3550 Modern India.
Credits: 3
Social, political, and religious developments in British and independent India.

ASH 4101 Ancient Mediterranean Civilization I.
Credits: 3
Primary focus on Mesopotamian civilization to about 1600 B.C.: Sumerians, Akkadians, Ur III, Amorites, Elamites, Syria, the Indus Valley Civilization, Anatolia, the Minoans.

ASH 4102 Ancient Mediterranean Civilization II.
Credits: 3
Primary focus on Egyptian and Eastern Mediterranean Civilization to about 1100 B.C.: Egypt to the end of the New Kingdom, Palestine, Syria, the Indo-Europeans, the Aegean Bronze Age.

ASH 4103 Ancient Mediterranean Civilization III.
Credits: 3
Eastern Mediterranean about 1200 to 500 B.C.: the Dark Ages, 1200-750 B.C., era of small states (Philistines, Hebrews, Phoenicians), the Age of Revolution in Greece, the Assyrian Empire, the Sixth Century.

GRADUATE COURSES

ASH 5388 Topics in East Asian History.
Credits: 3

ASH 6904 Readings in Japanese History.
Credits: 3

European History

EUH 2000 Western Civilization: From Early Times to the Middle Ages. F, SS.
Credits: 3
An introduction to western civilization. Treats the early cultures in Mesopotamia and Egypt, the Minoan-Mycenean society, Greece, the Hellenistic period and the Roman Empire to the Barbarian invasions.

EUH 2001 Western Civilization: From the Middle Ages to the Eighteenth Century. F, S, SS.
Credits: 3
Treats feudal, manorial, urban and religious institutions in medieval society, 'Renaissance and Reformation, the Thirty Years' War, the Age of Louis XIV, and the Age of Reason.

EUH 2002 Western Civilization: From the Eighteenth Century to the Present. F, S, SS.
Credits: 3
Treats the eighteenth century revolutions; Napoleon, romanticism and reaction, national unifications and imperialism, competing ideologies, the world wars, and Europe in the postwar era.

EUH 3092 Childhood and Family in Western Civilization. S.
Credits: 3
A history of attitudes toward children, of efforts to use, help, and understand them, and of the ideological importance of the child, and what these show about our civilization since the Greeks.

EUH 3101 The Ancient Near East, from Earliest Times to 500 B.C.
Credits: 3
Beginnings of western civilization. Emphasis on Egypt, Mesopotamia, and the peoples of the Old Testament.

EUH 3121 The Early Middle Ages. F.
Credits: 3
A study of the formation of the Medieval West from the dissolution of the Roman Empire to the year 1000 A.D. The course will particularly examine the ways in which Roman, Christian, and Germanic traditions fused to form a new civilization.

EUH 3122 The High Middle Ages. S.
Credits: 3
A topical examination of European Civilization from the eleventh through the fourteenth centuries. The course will contrast the urban and rural, northern and southern forms of economic, social, cultural, and political phenomena.

EUH 3140 Renaissance. F.
Credits: 3
Interpretations of the Renaissance. Italy: political, economic, literary, and artistic developments. The northern Renaissance and Christian Humanism.

EUH 3144 Reformation. S.
Credits: 3
Medieval and Renaissance backgrounds. The Protestant and Catholic Reformations of the sixteenth century. Impact on European society.

EUH 3202 Europe, 1660 to 1763.
Credits: 3
European politics, society, ideas, and institutions from the age of Louis XIV to the dissolution of the French colonial empire.

EUH 3204 Europe, 1763 to 1848.
Credits: 3
European politics, society, ideas, and institutions from the Enlightenment to the revolutions of 1848.

EUH 3205 Europe, 1848 to 1914.
Credits: 3
European politics, society, ideas, and institutions from the revolutions of 1848 to the outbreak of World War I.

EUH 3206 Europe Since 1914.
Credits: 3
European politics, society, ideas, and institutions from World War I to the present.

EUH 3401 The Greek World to 200 B.C.
Credits: 3
Greek foundations of western civilization from Minoans and Mycenaeans to Alexander the Great. Emphasis on classical Greek history, especially the fifth century.

EUH 3412 The Roman World.
Credits: 3
Romans and their contribution to western civilization. Covers the traditions of the Roman Republic, the Carthaginian Wars, and the Imperial period.

EUH 3431 History of Modern Italy. F.
Credits: 3
From the origins of the Risorgimento to present; emphasis on unification, Giolitti, fascist era, and World War II.

EUH 3500 Medieval England. F.
Credits: 3
The creation of a national society and culture in the time of England's constitutional development (to the sixteenth century).

EUH 3501 Early Modern England. S.
Credits: 3
The development of a revolutionary tradition and of a parliamentary monarchy in the period of England's cultural flowering (sixteenth to eighteenth centuries).

EUH 3502 Modern Britain.
Credits: 3
Social, political, and economic developments in the nineteenth and twentieth centuries.

EUH 3571 History of Russia through the Crimean War.
Credits: 3
A survey of the history of the Russian state. Emphasis is on institutional, political, and economic history.

EUH 3572 Russia from the Crimean War to the Present.
Credits: 3
Emphasis is on internal political, economic, and social history, the impact of modernization, the rise of radical ideologies, the Bolshevik revolution, and the evolution of the Soviet Union.

EUH 4280 History of the Second World War.
Credits: 3
An analysis of the Second World War covering especially the origins, politics, resistance movements, grand strategy, and consequences.

EUH 4314 Iberian Nations.
Credits: 3
Spain and Portugal from the end of the Middle Ages to the present. Spanish dominance and decline; Portugal in the age of European expansion; later impact of modernization on both Iberian nations but with special emphasis on Spain.

EUH 4442 France.
Credits: 3
Select topics in the historical development of the French people and of the modern French state.

EUH 4463 Germany: The Making of the Empire. F.
Credits: 3; Offered alternate years.
Germany's political development towards nationhood in the nineteenth century, and the imperial policies of Bismarck and Wilhelm II. The social history of specific groups in German society. Germany's role in the outbreak of WW I.

EUH 4464 Germany: The Republic and the Third Reich. F.
Credits: 3; Offered alternate years.
Collapse of the monarchy and tribulations of the Weimar Republic. A detailed examination of Hitler's seizure of power, and of social, political, and ideological aspects of the Third Reich.

EUH 4511 Elizabethan England, 1509-1660. F.
Credits: 3; Offered alternate years.
Cultural, social, and constitutional developments in the time of the emergence of political and religious consciousness.

EUH 4513 Restoration England, 1660-1793. F.
Credits: 3; Offered alternate years.
Cultural, economic, and political developments in the era of England's industrial, imperial, and diplomatic dominance.

EUH 4534 Modern Ireland.
Credits: 3
An introductory course on Irish politics, society, institutions, and culture from the Act of Union (1801) to the present.

EUH 4573 Advanced Readings on the History of Modern Russia.
Credits: 3
Colloquium. Readings, discussion, research papers on selected problems. Emphasis will be on the modernization process.

EUH 4602 Intellectual and Cultural History of Europe, Renaissance to the Scientific Revolution.
Credits: 3
First of a three-semester sequence. The emergence of the modern world view from Renaissance philosophies of nature to the rise of modern science. Emphasis on the transition from humanism, hermeticism, and naturalism to empiricism, mechanism, and science in the era of Ficino and Newton.

EUH 4603 Intellectual and Cultural History of Europe, Reason, Revolution, and Romanticism.
Credits: 3
European intellectual and cultural development from mid-seventeenth to mid-nineteenth centuries. Includes interdisciplinary study of seminal ideas in religion, philosophy, art, music, and literature.

EUH 4604 Intellectual and Cultural History of Europe, The Modern Age.
Credits: 3
European intellectual and cultural developments from the mid-nineteenth century to the present.

Includes an interdisciplinary study of the seminal ideas in philosophy, religion, literature, art, and music.

EUH 4640 Economic and Social History of Europe from the End of the Roman Empire to the Eve of the Industrial Revolution.
Credits: 3
Colloquium. Readings, discussion, and research paper.

EUH 4641 Economic and Social History of Europe from the Industrial Revolution to the Present.
Credits: 3
Colloquium. Readings, discussion, and research paper.

EUH 4650 European Military History.
Credits: 3; Offered alternate years.
The founding and growth of the state-controlled military establishment, and the exercise of the military art; military policies treated in connection with relevant political and economic factors.

GRADUATE COURSES

EUH 5546 Topics in British History.
Credits: 3

EUH 5934 Topics in European History.
Credits: 3

EUH 6126 The Middle Ages.
Credits: 4

EUH 6213 Europe, 1500-1763.
Credits: 4

EUH 6289 Readings, Modern Europe.
Credits: 3

EUH 6298 Seminar in the History of Modern European Thought.
Credits: 4

EUH 6342 Europe Since 1763.
Credits: 4

EUH 6508 England.
Credits: 4

History: General

HIS 2152 An Introduction to the Study of History.
Credits: 2
Discussion about the purpose of history and introductory surveys by experts in various fields. Requirement for history majors.

HIS 3300 Minority Group Conflicts in Historical Perspective.
Credits: 3
A course focused on the historical background of "minorities within minorities," e.g., Ulster-Ireland-Britain. To be offered periodically with area and content change.

HIS 3930 Special Topics.
Credits: 3
May be repeated with change of content.

HIS 4114 The Nature of History.
Credits: 3
A seminar examining the development of historiography through various philosophies and theories of history. Emphasis on practical examples and evaluation of noteworthy works of history. Prerequisite for Departmental Honors or High Honors.

HIS 4905 Individual Study. F, S, SS.
Credits: 1 to 3

HIS 4970 Senior Thesis.
Credits: 3; Prereq: Senior standing and permission of department.
Requirement for candidates for honors. Directed research leading to the submission of an interpretive and analytical, rather than merely narrative essay of approximately 40 pages in length. The paper may either be based on research into a particular topic for which there are accessible source materials, or it may involve a thorough critical assessment of a significant historical controversy or historiographical issue. Students must obtain the consent of an appropriate supervisor prior to registration, and topics must be approved by the Departmental Honors Co-ordinator.

GRADUATE COURSES

HIS 5055 Topics in Public History.
Credits: 3; May be repeated with change of topic.

HIS 5905 Special Studies in the History of Science.
Credits: 3; Maximum of 12 credits.

HIS 6060 Historical Method.
Credits: 3

HIS 6061 Introduction to Historiography.
Credits: 3

HIS 6063 Introduction to Quantitative History.
Credits: 3

HIS 6084 History, Philosophy, and Purposes of Museums.
Credits: 3

HIS 6489 Seminar in History of Science.
Credits: 4

HIS 6905 Individual Study.
Credits: 1 to 3; Maximum of 12 credits.

HIS 6910 Supervised Research.
Credits: 1 to 5††

HIS 6940 Supervised Teaching.
Credits: 1 to 5††

HIS 6950 Practicum in Public History.
Credits: 1 to 6; Maximum of 12 credits.

HIS 6971 Master's Research.
Credits: 1 to 15††

HIS 7289 Comparative History.
Credits: 4

HIS 7980 Doctoral Research.
Credits: 1 to 15††

Latin American History

LAH 2020 Introduction to Latin American History.
Credits: 3
An introduction to Latin American civilization, from the Conquest to the present, emphasizing select topics in social, political, and cultural history.

LAH 3130 Colonial Latin America.
Credits: 3
A survey of the formation of Spanish and Portuguese imperial systems and colonial societies in America in the sixteenth, seventeenth, and eighteenth centuries.

LAH 3300 Modern and Contemporary Latin America.
Credits: 3
The process of building new nations; contemporary challenges to the traditional order; revolutionary change and authoritarianism.

LAH 3712 Latin American International Relations.
Credits: 3
Historical development of political, diplomatic, and economic relations of Latin America with the United States, the socialist countries, and the world community, including intra-regional relations.

LAH 4433 Modern Mexico.
Credits: 3
Aftermath of independence and war with U.S., the Reforma and Maximilian, Porfiriato, Mexican Revolution, and contemporary trends.

LAH 4472 The Caribbean, Nineteenth and Twentieth Centuries.
Credits: 3
The legacy of colonial rule in different parts of the West Indies and Central America; socio-economic and political consequences of the abolition of slavery; struggles for nationhood; democracy and socialism.

LAH 4520 Gran Colombian Nations. S.
Credits: 3
Comparative study of political institutions, social and economic development of Colombia, Venezuela, Ecuador, primarily since independence.

LAH 4620 Brazil to 1822. F.
Credits: 3
Foundations of Portuguese civilization in Brazil, sugar planters, bandeirantes, miners, ranchers, and slaves. Political, social, and economic developments from 1500 to 1822.

LAH 4630 Brazil Since 1822. S.
Credits: 3
Monarchy, wars, slavery, the military question, the Republic, coffee, industrialization, twentieth-century ideologies.

LAH 4723 Problems in the Social History of Latin America.
Credits: 3
A historical examination of class and race relations, material and popular culture, and patterns of socio-economic dependency.

GRADUATE COURSES

LAH 5934 Topics in Latin American History.
Credits: 3

LAH 6934 Seminar in Colonial Spanish America.
Credits: 4

LAH 6936 Seminar in the History of Brazil.
Credits: 4

LAH 6938 Seminar in Modern Latin America.
Credits: 4

World History

WOH 3220 World Encounter: An Analysis of Global Historical Trends Since 1500.
Credits: 3
Examines the major factors which in the last 400 years have influenced the formation of today's power structure.

HISTORY OF SCIENCE, TECHNOLOGY, AND MEDICINE

Students wishing to concentrate in history of science, technology, and medicine must meet the following requirements: 1) A minimum of 32 hours in history including 6 hours in courses with a prefix of either AMH or EUH. 15 hours must be taken in history of science, technology and medicine, including not less than one course each in history of science, history of technology, and history of medicine. The following courses also meet the history of science requirement: IDS 2190 (Ascent of Man), LIT 4903 (Literature of Science), AST 5043 (History of Astronomy), PSC 3900, 3901 (Men and Concepts I, II), PSY 5605 (History of Psychology), MHF 4404 (History of Mathematics). 2) 8 hours of science and mathematics beyond the general education requirement, including at least 8 hours of non-general education courses at the junior or senior level that are required of majors in a given scientific discipline.

††Grading is on S-U basis only.

Descriptions

HUMANITIES

History of Science

HIS 2463 Introduction to the History of Science: Origins to the Renaissance. F.
Credits: 3
An introduction to the emergence of scientific thought from its mythopoeic beginnings to the time of Newton. The course will focus on the interrelationships among science, philosophy, and religion in Greece, Islam, and the Latin West. Special emphasis is given to Copernicus, Kepler, Galileo, Descartes and Newton.

HIS 2464 Introduction to the History of Science: Renaissance to the Present. S.
Credits: 3
A general survey of the major issues in physical and biological science from the time of Galileo to the present. Emphasis will be placed on the impact of scientific development on society, culture, and thought.

HIS 3468 Special Topics in the History of Science.
Credits: 3
Individual episodes from the history of science dealing with the historical development either of a particular science or of a specific theme. Examples include History of Evolutionary Thought, The Scientific Revolution, Scientific Exploration in an Age of Discovery. May be repeated with change of content up to a maximum of 9 credits.

HIS 3477 The Two Cultures: Science vs. Humanities.
Credits: 3
Multidisciplinary view of science in the modern world; historians, scientists, philosophers, and men of letters explore the historical tension (and apparent rift) between science and the humanities. Modern concepts of fact, theory, value creativity, change.

HIS 3483 The Atomic Age.
Credits: 3
History of the changing perception of the political and social significance of science since the discovery of nuclear fission.

History of Technology

HIS 3470 History of Technology I. F.
Credits: 3
The development of technology and engineering from antiquity to approximately 1750 with emphasis on the relationship of this development to the growth of western civilization.

HIS 3471 History of Technology II. S.
Credits: 3
The development of technology and engineering from approximately 1750 to WW I with emphasis on the relationship of this development to the changing patterns of life in western civilization.

History of Medicine

HIS 3490 History of Western Medicine.
Credits: 3
Beginning with primitive societies, the course will trace the development of ideas of medical treatment, concepts of disease, and the growth of medical knowledge over the centuries. Students will also have the opportunity to perform research on an aspect of medical history of interest to them.

HIS 3491 Social History of American Medicine.
Credits: 3
A topical approach to the origins and special problems of the healing professions in America. Emphasis is on social history rather than on technological developments. Topics may vary each time the course is offered. Student may repeat course when topics change.

††Grading is on S-U basis only.

HORTICULTURAL SCIENCE
College of Agriculture

INSTRUCTIONAL STAFF 1981-82

Burke, M.J., Chairman; (Faculty listed under Fruit Crops, Ornamental Horticulture, and Vegetable Crops).

Fruit Crops

GRADUATE COURSES

FRC 6233 Citriculture.
Credits: 3

FRC 6256 Tropical Fruit Production and Research in Florida.
Credits: 3

Horticulture Science

GRADUATE COURSES

HOS 6112 Morphology of Horticultural Crops.
Credits: 3

HOS 6122 Taxonomy of Horticultural Crops.
Credits: 3

HOS 6201 Breeding Perennial Cultivars.
Credits: 3

HOS 6212 Herbaceous Horticultural Crop Breeding.
Credits: 2

HOS 6231 Biochemical Genetics of Higher Plants.
Credits: 3

HOS 6311 Seed Physiology.
Credits: 3

HOS 6331 Postharvest Physiology.
Credits: 3

HOS 6343 Plant Stress Physiology.
Credits: 3

HOS 6345 Environmental Physiology of Horticultural Crops.
Credits: 3

HOS 6351 Chemical Regulators of Horticultural Crops.
Credits: 3

HOS 6361 Rootstock-Scion Relationships.
Credits: 3

HOS 6412 Nutrition of Horticultural Crops.
Credits: 3

HOS 6905 Nonthesis Research in Horticultural Science.
Credits: 1 to 4; max. 4.

HOS 6910 Supervised Research.
Credits: 1 to 5††

HOS 6931 Horticultural Science Seminar.
Credits: 1††; maximum 3.

HOS 6932 Topics.
Credits: 2 to 4; max. 8.

HOS 6940 Supervised Teaching.
Credits: 1 to 5††

HOS 6941 Practicum in Horticultural Science.
Credits: 2 to 4; max. 8.

HOS 6971 Master's Research.
Credits: 1 to 15††

HOS 7980 Doctoral Research.
Credits: 1 to 15††

Ornamental Horticulture

GRADUATE COURSES

ORH 6223 Research and Development in Turfgrass Science.
Credits: 3

Vegetable Crops

GRADUATE COURSES

VEC 6251 Advanced Olericulture.
Credits: 3

HUMANITIES
College of Liberal Arts & Sciences

INSTRUCTIONAL STAFF 1981-82

Doherty, H.J., Chairman; Derrick, C.; Goldhurst, W.; Hetrick, L.A.; Hodges, J.R.; Hoffman, G.J.; Johnson, I.; Kniseley, S.P.; Kotey, P.A.; Lambert, R.E.; Langford, A.G.; Leavey, J.P.; Lewis, A.L.; McKnight, S.A.; Price, J.W.; Neale, J.R.; Taylor, F.H.G.; Ulmer, G.

The Humanities Department is primarily engaged in offering courses which may be taken in satisfaction of the general education requirement in humanities and is secondarily engaged in offering courses which may be used to satisfy the requirements of area studies or certificate programs. Humanities courses may also be used as electives in many programs.

The basic sequence, HUM 2210-2230, is designed to widen and deepen the student's knowledge of our intellectual and artistic inheritance. The development of the more vital characteristics of Western culture is traced chronologically. Where possible, students study from primary sources—Homer, Aeschylus, Sophocles, Euripides, Plato, the Bible, Dante, Machiavelli, Spinoza, Rembrandt, Michelangelo, Shakespeare, Voltaire, Bach, Mozart, Beethoven, Goethe, Dostoevsky, Debussy, Freud, Picasso, Stravinsky, Sartre, et al. Courses are also offered in non-Western humanities.

HUM 2020 Humanities Forum.
Credits; 3
A general introduction to western humanities emphasizing the formation of values and the development of self-images as expressed in the arts, literature, and philosophy of the major historical epochs.

HUM 2030 The Culture of Western Civilization.
Credits: 3
An introductory course based upon the film series *Civilization* by Kenneth Clark. Study of some of the major cultural monuments of western civilization from the fall of the Roman Empire to the present—including art, music, philosophy, poetry, architecture, and sculpture.

HUM 2210 Western Humanities: Ancient through Renaissance. F.
Credits: 3
The first course in Western Humanities. Study of materials from the Greco-Roman, Judeo-Christian, Medieval, and Renaissance heritages.

HUM 2229 Western Humanities: College Honors. F.
Credits: 3
Content similar to the materials in HUM 2210, but structured to the abilities of qualified students. Admission by invitation only.

HUM 2230 Western Humanities: Renaissance to the Present. S.
Credits: 3
The second course in Western Humanities. Study of materials from the Renaissance to the twentieth century.

HUM 2239 Western Humanities: College Honors. S.
Credits: 3
Content similar to the materials in HUM 2230, but structured to the abilities of qualified students. Admission by invitation only.

HUM 2333 Language and Nationalism: A Humanistic View of an International Problem.
Credits: 3
A humanistic perspective of the role language should play in nationalism.

HUM 2410 Asian Humanities. F, S.
Credits: 4
A general education course similar in philosophy and purpose to the basic sequence. Content from the philosophies, literature, arts and music of India, China, and Japan.

HUM 2420 African Humanities. F, S.
Credits: 3
A general education course similar in philosophy and purpose to the basic sequence. Content selected from the philosophies, literature, arts and music of various African countries and regions.

HUM 2424 African Cultures and Literatures. F, S.
Credits: 3
A culturally based study of folktales, proverbs, drama, poetry, and novels—and how these forms are used to portray African arts and ideas.

HUM 2460 Latin American Humanities.
Credits: 3
Course content selected from the philosophy, literature, arts and music of Latin American countries.

HUM 2513 Museum Without Walls. F, S, SS.
Credits: 3
Selected films and readings will be used to study a select sequence of the greatest and/or most challenging works of painting, sculpture, and architecture in the Western tradition, viewed as demonstrations of Western man's concepts of self, Nature, and God.

HUM 3244 Cultural Revolution: Humanities of the Eighteenth and Nineteenth Centuries.
Credits: 3
Interdisciplinary study of the major cultural shift —often characterized as the passage from classicism to romanticism, or from "reason" to "revolution"—that took place during the eighteenth and nineteenth centuries.

HUM 3411 Asian Arts and Crafts.
Credits: 3
Interdisciplinary study of the in-depth aspects of the philosophy, literature, art and music of India, China, and Japan. Consideration of architecture, theater, and dance is included.

HUM 3435 Medieval Culture.
Credits: 3
Readings will demonstrate the breadth and complexity of Western medieval culture from the tenth through the fourteenth centuries. The course will focus on the heterogeneity of the Middle Ages and on the renewed emphasis on the individual in that period.

HUM 3437 The Renaissance: Creativity and the Origins of Modern Culture.
Credits: 3
A study of Renaissance literature, philosophy, art and music seen as offering new departures that continue significantly to affect the development of the West in the humanities and science alike.

HUM 3473 The Age of the Avant-Garde.
Credits: 3
An examination of the revolutionary experimentalist aspects of modern and contemporary culture, including such early movements as Cubism and Surrealism, as well as current movements such as Structuralism and Conceptualism. Representative materials will be selected from the fields of the visual arts, literature, philosophy, and music.

HUM 3930 Special Topics.
Credits: 3; May be repeated with change in content.
Interdisciplinary humanities courses on topics to be announced prior to each term.

Interdisciplinary Studies

IDS 2190 Ascent of Mankind. F.
Credits: 3
The course uses Jacob Bronowski's celebrated video lectures *The Ascent of Man* and selected readings to explore the mind of man, the great turning points in every age, and man's evolving fulfillment of his human potential.

INDUSTRIAL AND SYSTEMS ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1981-82

Elzinga, D.J., Chairman; Burns, J.F.; Capehart, B.L.; Dominiak, K.E.; Francis, R.L.; Hamacher, H. W.; Hearn, D.W.; Hodgson, T.J.; Kalman, R.E.; Kilpatrick, K.E.; Kisko, T.M.; Leavenworth, R.S.; Mahoney, J.F.; Muth, E.J.; Nattress, J.A.; Sivazlian, B.D.; Swain, R.W.; Tufekci, S.; Valisalo, P.E.; Wilcox, D.B. (emeritus).

Computational Numerical Methods

CNM 3100 Numerical Techniques.
Credits: 2; Prereq: COP 3212; Coreq: MAP 3302.
Techniques used in the computer solution of numerical problems. Error analysis, use of series, linear and nonlinear equations, integration, differential equations, curve fitting, eigenvalues, partial fractions.

Engineering: Computer Mathematics
GRADUATE COURSE

ECM 6260 Numerical Techniques for Linear Systems.
Credits: 3

Engineering: Industrial

COP 3212 Computer Programming for Engineers.
Credits: 2; Prereq: MAC 3312.
Computer programming and the uses for large scale digital computers. Emphasis will be placed on the scientific oriented computer language FORTRAN. Engineering and technical problems are solved by each student using the facilities of the Computer Center. This intensive course is specifically directed toward those students who are pursuing technical careers in fields employing a reasonably high degree of mathematics.

COP 3212L Computer Programming for Engineers Laboratory.
Credits: 1; Coreq: COP 3212.
Optional laboratory course in conjunction with COP 3212.

EIN 3314L Work Design and Human Factors.
Credits: 3; Prereq: STA 4322.
The analysis, design and maintenance of work methods. Study of time standards and work sampling. Human limitations of equipment design and man-machine systems.

EIN 4243 Human Engineering.
Credits: 3; Prereq: STA 4322.
Design, analysis, and evaluation of man-machine systems. Emphasis on interaction of human and non-human components and resultant effect upon total system performance. Discussion of man's physical, mental and psychological characteristics and limitations.

EIN 4333 Production and Inventory Control.
Credits: 4; Prereq: EIN 3314L, EIN 4354, ESI 4313, STA 4322.
Analysis of production and inventory systems. Forecasting, scheduling, sequencing, project management. Deterministic and stochastic inventory models for single and multi-item systems. Analysis of distribution systems.

EIN 4335 Production Systems Analysis and Design.
Credits: 3; Prereq: EIN 4365, ESI 4523.
Integration of industrial and systems engineering methodologies with emphasis on methods of successful implementation. A project and case-study oriented course.

EIN 4354 Engineering Economy.
Credits: 2; Prereq: Upper Division classification.
Basic principles and applications of economic decision-making between alternatives encountered in engineering systems projects. The analysis will include methodologies of economics, accounting and finance in addition to engineering fundamentals.

EIN 4355 Games and Economic Decision Models.
Credits: 3
Study of decisions under risk and uncertainty, emphasizing utility theory, Bayesian Decision Theory, and Game Theory.

EIN 4365 Facilities Planning and Material Handling.
Credits: 3; Prereq: ESI 4313.
Principles and methods for analyzing and designing plant facilities. Selected topics include systematic and computerized layout planning. Warehouse design, materials handling and automated storage-retrieval systems.

EIN 4905 Special Problems in Industrial and Systems Engineering.
Credits: 1 to 4
Problems and systems studies associated with honors programs representing under-graduate research. Selected advanced topics including new developments and techniques in industrial and systems engineering. May be repeated up to a maximum of 9 credits.

EIN 4937 Industrial and Systems Engineering Seminar.
Credits: 1; Prereq: Upper Division classification.
Lectures and discussions on general and specific engineering problems. Individual investigations and research reports on assigned topics. Orientation for an industrial career.

EIN 4944 Practical Work in Industrial and Systems Engineering.
Credits: 1 to 3; Prereq: 4EG classification; one term industrial employment, including extra work according to a preapproved outline.
Practical engineering work under industrial supervision as set forth in the College of Engineering Regulations.

GRADUATE COURSES

EIN 5244 Measurements in Bioengineering.
Credits: 2

EIN 6115 Information Systems.
Credits: 2

EIN 6246L Human Factors Engineering.
Credits: 2

EIN 6247 Man-Machine Systems Design.
Credits: 2

EIN 6249 Behavior Systems Engineering.
Credits: 2

EIN 6318 Work Measurement Theory.
Credits: 3

EIN 6338 Advanced Production and Inventory Control.
Credits: 3

EIN 6348 Mathematical Theory of Inventory.
Credits: 2

EIN 6357 Advanced Engineering Economy.
Credits: 3

EIN 6358 Decision Theory.
Credits: 2

EIN 6367 Facilities Layout and Location.
Credits: 3

EIN 6388 Statistical Forecasting Models.
Credits: 3

EIN 6508 Health Systems Analysis 1.
Credits: 3

EIN 6509 Health Systems Analysis 2.
Credits: 3

Descriptions

INDUSTRIAL AND SYSTEMS ENGINEERING

EIN 6905 Special Problems.
Credits: 1 to 6; max: 9

EIN 6910 Supervised Research.
Credits: 1 to 5††

EIN 6918 Graduate Seminar.
Credits: 1††

EIN 6939 Seminar in Applied Stochastic Processes.
Credits: 2

EIN 6940 Supervised Teaching.
Credits: 1 to 5††

EIN 6971 Master's Research.
Credits: 1 to 15††

EIN 7933 Special Problems.
Credits: 1 to 6; max: 12

EIN 7980 Doctoral Research.
Credits: 1 to 15††

Engineering Systems-Industrial

ESI 3123 Analog Computer Principles.
Credits: 2; Prereq: MAP 3302.
Basic principles and uses of analog computer. Consideration of solution of simultaneous algebraic and differential equations as well as elementary simulation techniques. Laboratory.

ESI 3154C Process Control Computer Programming.
Credits: 3; Prereq: CNM 3100.
Basic principles and uses of process control digital computers. Consideration of analog-to-digital and digital-to-analog conversions and process automated systems control. Laboratory using automated warehouse and mini-computers.

ESI 4161C Industrial Applications of Microprocessors.
Credits: 3; Prereq: COP 3212.
Basic concepts of microprocessors; an overview of computer architecture, functions and machine language. Discussion of external inputs, outputs, interfacing and computational requirements. Example commercial applications are shown. Applications to industrial systems. Emphasis on laboratory experiments and "hands-on" experience.

ESI 4221C Industrial Quality Control.
Credits: 3
Factors affecting variation in product quality. The use of control charts to evaluate and control manufacturing processes. Techniques for acceptance and reliability testing. Laboratory exercises illustrate the operation and control of manufacturing processes.

ESI 4235 Stochastic Systems and Reliability Models.
Credits: 3; Prereq: ESI 4568, STA 4322.
Stochastic processes as models for system behavior. Renewal theory; reliability function and hazard function. Typical failure distributions; redundant systems, models of repair and maintenance.

ESI 4312 Operations Research 1.
Credits: 3; Prereq: COP 3212, ESI 4567.
Classical optimization; method of Lagrange multipliers; Kuhn-Tucker conditions. Linear programming; simplex algorithm, sensitivity analysis; duality. Transportation and assignment problems; network flows. Integer programming. Applications.

ESI 4313 Operations Research 2.
Credits: 3; Prereq: ESI 4312, ESI 4568, STA 4321.
Dynamic programming and optimization; Markov processes and queueing theory; network analysis; applications.

††Grading is on S-U basis only.

ESI 4523 Industrial Systems Simulation.
Credits: 3; Prereq: CNM 3100, STA 4321.
Simulation methodology, languages and design. Monte Carlo technique, GPSS (General Purpose Simulation System), and Industrial Dynamics applied to the solution of industrial problems.

ESI 4560 Numerical Techniques in Systems Engineering.
Credits: 2; Prereq: COP 3212, ESI 4567.
A study of numerical techniques suitable for computer solution of problems involving interpolation, zero-finding, matrix operations, eigenvalues, eigenvectors, differentiation, integration, relaxation and differential equations error analysis.

ESI 4567 Matrix Methods in Systems Engineering.
Credits: 3; Prereq: MAC 3313.
Theory and application of vector spaces and matrices to systems problems. Analysis of linear transformations, simultaneous linear equations, characteristic values, and quadratic forms. Convex sets, n-dimensional geometry, and an introduction to system theory.

ESI 4568 Transform Methods in Systems Engineering.
Credits: 3; Prereq: MAP 3302.
Solutions of differential, integral and difference equations arising in systems engineering and operations research problems using Laplace and Z-transform methods. Operational approaches will be stressed.

ESI 4949 Co-Op Work Experience.
Credits: 1††; max: 3
Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

GRADUATE COURSES

ESI 5125 Analog Simulation Techniques.
Credits: 3

ESI 5135 Hybrid Computer Techniques.
Credits: 3

ESI 5236 Reliability Engineering.
Credits: 3

ESI 5309 Operations Research: A Survey of Techniques and Applications.
Credits: 3

ESI 5570 Digital Computer Techniques 1.
Credits: 2

ESI 5571 Digital Computer Techniques 2.
Credits: 2

ESI 6127 Analog Computer Techniques.
Credits: 3

ESI 6136 Analog-Hybrid Systems.
Credits: 3

ESI 6137 Advanced Hybrid Computer Techniques.
Credits: 2

ESI 6222 Statistical Quality Control.
Credits: 3

ESI 6239 Reliability Theory and Stochastic Models
Credits: 3

ESI 6316 Mathematical Methods of Operations Research 1.
Credits: 2

ESI 6317 Mathematical Methods of Operations Research 2.
Credits: 2

ESI 6337 Markov Processes and Queueing Theory.
Credits: 3

ESI 6349 Markov Decision Processes for Engineers.
Credits: 2

ESI 6358 Games and Decision Theory.
Credits: 3

ESI 6408 Introduction to Optimization Theory.
Credits: 2

ESI 6417 Linear Programming and Network Optimization.
Credits: 3

ESI 6418 Extensions to Linear Programming.
Credits: 3

ESI 6429 Introduction to Nonlinear and Dynamic Programming.
Credits: 3

ESI 6438 Dynamic Programming.
Credits: 2

ESI 6439 Dynamic Optimization Theory.
Credits: 2

ESI 6448 Discrete Optimization Theory.
Credits: 2

ESI 6458 Network Flows and Graph Theory.
Credits: 3

ESI 6499 Advanced Topics in Mathematical Programming.
Credits: 2

ESI 6508 Systems Analysis 1.
Credits: 2

ESI 6509 Systems Analysis 2.
Credits: 2

ESI 6526 Industrial Dynamics.
Credits: 3

ESI 6527 Industrial Dynamics 2.
Credits: 2

ESI 6528 Dynamic Modeling and Simulation.
Credits: 2

ESI 6529 Digital Simulation Techniques.
Credits: 3

ESI 6546 Stochastic Systems Analysis.
Credits: 3

ESI 6547 Advanced Stochastic Systems Analysis.
Credits: 2

ESI 6548 Stochastic Service Systems.
Credits: 2

ESI 6558 Advanced Systems Design.
Credits: 2

INTERIOR DESIGN
College of Architecture

Instructional Staff 1981-82

Young, M., Director; Croston, R.; McFarlane, J.; Tate, S.; Winebrenner, J.

IND 2100 History of Interiors I. F.
Credits: 2
History of Interiors in Architectural and Sociological Context.

IND 2130 History of Interiors II. S.
Credits: 2; Prereq: IND 2100.
Continuation of History of Interiors I.

IND 3215 Architectural Interiors I. F.
Credits: 5; Prereq: ARC 2313.
Development of Interior Spaces through Internal Functions and External Forces.

IND 3216 Architectural Interiors II.
Credits: 5; Prereq: IND 3215.
Continuation of Architectural Interiors I.

IND 3421 Furniture Design.
Credits: 3; Prereq: IND 3215.
Analysis, Design, & Construction of Interior Components.

IND 3424 Technologies of Interior Materials.
Credits: 3; Prereq: ARC 2461
Technology and evaluation of building components and Interior systems.

IND 3430 Light & Graphics I. F.
Credits: 3; Prereq: ARC 2313.
Study of Light, Form, and Color in Interior Spaces.

IND 3431 Light & Graphics II. W.
Credits: 3; Prereq: IND 3430.
Continuation of Light & Graphics I: Analysis & Design of Lighting Systems.

IND 4225 Advanced Architectural Interiors I. F, S.
Credits: 6; Prereq: IND 3216.
Advanced problems in Design of Architectural Interiors.

IND 4226 Advanced Architectural Interiors II. F.
Credits: 8; Prereq: IND 4225.
Student initiated interior problems involving programming & the integration of all the design elements involved in previous design courses.

IND 4240 Interior Design for Architecture. S.
Credits: 3; Prereq: ARC 2313.
Interior Architecture for Architectural Students.

IND 4422 Materials & Estimating. F.
Credits: 3
Analysis and estimating of Interior Materials.

IND 4450C Interior Detailing and Design. F.
Credits: 3; Prereq: IND 3216.
Design and detailing of construction and finish materials and mechanical systems: working drawings.

IND 4500 Professional Practice of Interior Design. F, S.
Credits: 3
Administration of Interior Design Operations, Professional Relations, Legal Forms, Specifications & Programming.

IND 4930 Special Topics. F, S.
Credits: 1 to 6; Prereq: IND 3215.
Special topics Seminar in Interior Design. Enrollment upon recommendation of Director. May repeat for maximum of 6 credits.

JOURNALISM
College of Journalism and Communications

INSTRUCTIONAL STAFF 1981-82

Roosenraad, J.A., Chairman; Carson, L.M.; Chance, J.C.; Davis, H.G.; Griffith, J.L.; Griggs, H.H.; Kent, K.E.; Maloney, E.M.; Parrish, F.S.; Patterson, B.R.; Pierce, R.N.; Smith, J.A.; Weston, E.G.; Yates, E.D.

Offerings in journalism are designed primarily for training professional journalists in newspaper and magazine reporting, writing, editing and interpretation. Students interested in major work in print journalism are referred to the requirements of the College of Journalism and Communications, which offers reporting, editing, magazine and photojournalism sequences within its Journalism Department. Students also are referred to College course offerings in Broadcasting, Advertising, Public Relations and Technical Communications. College of Journalism and Communications courses may be taken for elective credit by students in all Upper Division units of the University. Students who have not been admitted to the College of Journalism and Communications must have a 2.5 overall grade point average to enroll in other than the following courses: MMC 1000, MMC 2100, RTV 2000, ADV 3000, PUR 3000.

Journalism

JOU 3100 Reporting F, S, SS.
Credits: 3; Prereq: MMC 2100 with at least a C, ability to type 30 words a minute, JOU 3110 or permission.
Instruction and practice in reporting and writing basic news stories. Emphasis on style, clarity, accuracy and responsibility in handling news.

JOU 3110 Fact Finding. F, S, SS.
Credits: 2; Prereq: Enrolled in College of Journalism and Communications or permission of instructor.
Locating and interpreting basic sources used in reporting and editing news. Students will work with standard reference works and public records, practice interviewing skills, learn to analyze and interpret charts, reports and statistics commonly used by news media, and study survey research as used in reporting.

JOU 3204 Graphics of Journalism.
Credits: 2; Prereq: Junior standing or above in the College of Journalism & Communications or permission of instructor.
Introduction to the use of photographs, type, drawings, graphs and charts.

JOU 3600 Survey of Photojournalism. F, S, SS.
Credits: 2; Prereq: Junior standing or above in the College of Journalism & Communications or permission of instructor.
Terminal course not open to Department of Journalism students. Introduction to journalistic still photography; visualization; selection and use of photographs for the print media; legal, historical, stylistic, ethical and technical aspects. Required student picture-taking and darkroom work minimal. Students must furnish supplies.

JOU 3601 Photographic Journalism I. F, S, SS.
Credits: 3; Prereq: Junior standing or above in the College of Journalism & Communications or permission of instructor.
Study and practice of still photography as a major component of print journalism. Emphasis on basic reportorial picture-taking and darkroom techniques; selection and use of photographs; ethical, historical, legal and stylistic aspects. Students must furnish supplies.

JOU 4004 History of Journalism. S.
Credits: 2
Origin, development and potentiality of print and broadcast media, with emphasis on the daily and weekly press. Analysis will be made of the evolution of standards, policies, methods and controls.

JOU 4104 Public Affairs Reporting. F, S, SS.
Credits: 3; Prereq: JOU 3100 with at least a C, JOU 3110, junior standing or above in the College of Journalism and Communications.
Instruction and practice in reporting complex stories involving enterprise, documentation and use of multiple sources. Special emphasis will be given to responsible coverage of law enforcement, courts, schools, city and county government and politics and elections.

JOU 4200 Newspaper Editing I. F, S, SS.
Credits: 3; Prereq: JOU 3110, JOU 3100.
Fundamental instruction and practice in essentials of news editing, with special emphasis on editing the weekly and daily newspaper. Included are copyreading, headline writing, makeup, technology and typography.

JOU 4202 Newspaper Editing II. S.
Credits: 3; Prereq: JOU 4200 with at least a C, PUR 4103.
Career newspaper editing; emphasis on creativity in editing, layout and design, color, decision making, news selection and judgment, technology and production, and publication trends.

JOU 4300 Magazine and Feature Writing. F, S, SS.
Credits: 3; Prereq: JOU 3100 or permission of the instructor.
Preparation of features and articles for publication in newspapers and magazines coordinated with study of magazine editing problems. Supervised marketing of pieces produced in the course.

JOU 4301 Specialized Journalism. S.
Credits: 3; Prereq: JOU 3100 with at least a C, Senior standing.
Study and practice in advanced journalism including reviewing. Students may select a specialty and may work in writing or in writing and photography together. Photo option requires students to furnish supplies and camera.

JOU 4302 Public Opinion and Editorial Analysis. F, S, SS.
Credits: 2; Prereq: Senior standing.
Public opinion as a force in government and daily life; introduction to persuasive writing as a practical means of influencing public opinion.

JOU 4311 Advanced Magazine Writing. F.
Credits: 3; Prereq: Grade of B in JOU 4300 or instructor's approval.
An advanced writing course in which students create article ideas, research and write magazine-length non-fiction articles and submit them for publication.

JOU 4312 Community Journalism. F.
Credits: 2; Prereq: JOU 3100, JOU 3110.
A practical course in the problems, policies and operation of community newspapers, including guest lecturers from county and suburban papers, a field trip and an in-depth report on a selected paper. Emphasizes the economics of small papers.

JOU 4603 Photographic Journalism II. S.
Credits: 3; Prereq: JOU 3601 or permission of the instructor.
Journalistic still photography emphasizing technical proficiency. Specialized techniques and equipment stressed. Emphasis on illustrative idea. Color and black and white. Studio, view camera and specialized lighting utilized. Darkroom work required. Students must furnish supplies and 35mm equipment.

JOU 4604 Photographic Journalism III. F.
Credits: 3: Prereq: JOU 3601 with at least a C or permission of instructor.
Study and practice of photographic print journalism emphasizing reportorial still picture-taking and accompanying darkroom work. Use of photographs in contemporary print journalism, especially newspapers, including interrelationship with text; portfolio preparation. Students must furnish supplies and 35mm camera equipment.

JOU 4700 Problems and Ethics of Journalism in Society. F, S, SS.
Credits: 2; Prereq: Senior standing in the College of Journalism and Communications.
Reading, analysis and planning in current and projected issues in journalism, both in their professional and societal aspects.

JOU 4800 Journalism in Secondary Schools. SS.
Credits: 3; Prereq: Senior standing; Coreq: MMC 2100.
Open only to students seeking certification. This course is designed for persons who plan to teach journalism in secondary schools, or who act as faculty advisers for school newspapers, magazines or yearbooks.

JOU 4905 Individual Problems in Journalism.
Credits: 1 to 3; Prereq: At least 10 hours of journalism in the Upper Division and approval of the Dean.
Students and the instructor concerned will choose a problem or project which will give the student actual experience in his major field.

JOU 4930 Special Study in Journalism.
Credits: 1 to 3; Prereq: Senior standing in journalism and permission of instructor.
Variable content, providing opportunity for study in academic areas of journalism such as the Literature of Journalism, and other fields within the province of the College.

JOU 4940 Journalism Internship. F, S, SS.
Credits: 1 to 3††; Prereq: Minimum of 10 hours of professional courses earned and a 2.5 grade point average. Must have advance approval from academic adviser, department and college offices to receive credit.
Student and instructor will select an appropriate

work area related to the field of journalism for on-the-job training. Student will work a minimum of three hours on the job for every hour of credit to be received. Progress reports and summary required. May be repeated with change of content up to a maximum of 6 credits.

JOU 4946 Applied Journalism. F, S, SS.
Credits: 3; Prereq: JOU 4104 and JOU 4200.
A Senior course bringing together the work of the preceding news courses into actual experience and newsroom training in the preparation and handling of news copy, pictures and syndicated materials.

JOU 4949 Co-op Work Experience. F, S, SS.
Credits: 1††; Prereq: Minimum of 10 hours of professional courses earned and a 2.5 GPA. Must have advance approval from academic adviser, department and colleges offices to receive credit. Practical co-op work experience relating to journalism under approved business, institutional or governmental supervision. May be repeated with changed work program upon departmental approval.

Mass Media Communication

MMC 1000 Survey of Mass Communication. F, S.
Credits: 2
An introduction to the various media of mass communication, with special emphasis on the roles and responsibilities to society and the publics they serve.

MMC 2100 Writing for Mass Communication. F, S, SS.
Credits: 3; Prereq: Six hours of English; Sophomore standing or above; ability to type 20 words a minute.
A preprofessional course designed to provide fundamental instruction and practice in writing as a basis for Upper Division courses in advertising, broadcasting, journalism and public relations. Stresses the basic similarities in writing for all mass media.

MMC 4200 Law of Mass Communication. F, S, SS.
Credits: 3; Prereq: Senior standing in the College of Journalism.
Understanding the law which guarantees and protects the privileges and defines the responsibilities of the mass media. Includes problems of constitutional law, libel, privacy and governmental regulations.

MMC 4301 World Communication Systems. F.
Credits: 2
Theoretical bases of world mass media systems; international channels of communications, analysis of press and broadcasting systems by regional and national categories.

MMC 4420 Applied Research in Mass Communication. S.
Credits: 2
Research applications for print and public relations organizations. Role of research in decision making. Evaluation of surveys and experiments.

GRADUATE COURSES

With permission of the instructor and the College, an undergraduate may enroll in graduate-level courses if the student has Senior standing and an Upper Division grade-point average of at least 2.8. Such courses are listed under "Communication" in this catalog and are described under "Journalism and Communications" in the graduate school catalog. Students interested in graduate work are referred to course offerings under Communication.

LANDSCAPE ARCHITECTURE
College of Architecture

INSTRUCTIONAL STAFF 1981-82

Smith, H.H., Chairman; Donelin, D.W.; Fowler, K.; Linscott, L.L.; Williams, S.K.

LAA 2710 Landscape Architecture I. F, SS.
Credits: 4; Prereq: ARC 1131 or permission.
Aesthetic, environmental, and cultural theories and developments of landscape architecture from antiquity through the 18th century; introduction to design skills and techniques.

LAA 2711 Landscape Architecture 2. S, SS.
Credits: 4; Prereq: LAA 2710 or permission.
Continuation of LAA 2710 in the 19th and 20th centuries with emphasis on the bionomic relationship of natural and created landscapes; design skills and techniques.

LAA 3330 Site Analysis. F.
Credits: 3; Coreq: LAA 3350L or Permission.
Inventory, analysis and evaluation, and application of techniques and procedures with emphasis on natural environments and building sites. Offered to college majors on limited studio space basis.

LAA 3350L Landscape Architecture Studio 1. F.
Credits: 5; Prereq: Professional Standing in Landscape Architecture.
Program organization, concept development, and landscape design procedures with emphasis on spatial composition and horizontal circulation; scale and textural relationships; site studies based on natural and built environments.

LAA 3351L Landscape Architecture Studio 2. S.
Credits: 5; Prereq: LAA 3350L.
Continuation of LAA 3350 with emphasis on detail design, roadway alignment, and environmental aesthetics; site studies based on urban and rural environments; presentation methods.

LAA 3420 Landscape Construction 1. F.
Credits: 3; Coreq: LAA 3350L.
Characteristics of land form and the effects of grading on drainage, soils and location of landscape architectural elements; pavings, low retaining walls.

LAA 3421 Landscape Construction 2. S.
Credits: 3; Prereq: LAA 3420.
Design and construction drawings for non-habitable structures, landscape utilities, and irrigation system layouts.

LAA 3510 Planting Design. S.
Credits: 4; Prereq: LAA 3350L.
Plant materials as major design elements and the execution of planting plans; specifications and cost estimates; landscape aesthetics.

LAA 3530 Landscape Management. S.
Credits: 3; Prereq: LAA 3350, one course in plant identification.
Survey of landscape management problems with emphasis on residential, institutional, and urban landscapes. This is a directed elective which may be satisfied by related course work and consent of the Adviser.

LAA 3713 Survey of the American Landscape. F, S.
Credits: 2
A survey course which explores the attitudes, decisions, and developments of the American Landscape with emphasis on the natural, visual, and cultural resources of the built environment. Not for major credit.

LAA 4210 Professional Administration. F, S.
Credits: 3; Coreq: LAA 4356L.
Programming of landscape development, office administration, and professional ethics; preparation of contracts, specifications and cost estimates for different project types; personal resumes.

LAA 4355L Landscape Architecture Studio 3. F, SS.
Credits: 8; Prereq: Senior Standing.
Regional and urban planning, and design problems with emphasis on visual resources, community, housing and recreation projects; team and collaborative processes; undergraduate thesis program.

LAA 4356L Landscape Architecture Studio 4. F, S.
Credits: 8; Prereq: LAA 4355L.
A terminal comprehensive undergraduate thesis project based on the principles of previous studies. An approved copy of the thesis must be filed with the Chairman prior to graduation.

LAA 4410L Design Implementation. F, SS.
Credits: 3; Coreq: LAA 4355L.
Emphasis is on the issues of large scale and complex landscape development as related to interdisciplinary responsibility, scheduling, costs and labor; critiques of existing and ongoing work with professional and industry representatives.

LAA 4905 Special Studies in Landscape Architecture. F, S, SS.
Credits: 1 to 3; Prereq: Consent of Instructor.
Studio investigations of special topics in landscape architecture adjusted to individual needs of advanced undergraduate and graduate students. Students may repeat for a maximum of six credits.

LAA 4930 Senior Seminar. F, SS.
Credits: 2; Coreq: LAA 4355L or Permission.
Reports, project presentations, visiting lecturers with emphasis on the expressions of form. Open to other majors in the College.

LAA 4935 Contemporary Movements in Landscape Architecture. F, S.
Credits: 3; Prereq: Senior Standing or Permission.
An assessment and discussion of contemporary works of landscape architecture with emphasis on user evaluation models, design trends, and research directions. Open to other majors in the College.

LAA 4940 Landscape Architecture Internship. F, S, SS.
Credits: 1 to 3; Prereq: Approval of Academic Adviser.
Internship is designed to introduce students to full-time workings of private/public sector offices under the direction of responsible professionals in the related design disciplines. One credit is awarded for each full month of work experience; may be repeated for a maximum of six credits.

LATIN AMERICAN STUDIES
College of Liberal Arts and Sciences

THE LATIN AMERICAN FACULTY

Safa, H.I., Director; McCoy, T.L., Associate Director; Antonini, G.A.; Soares, G.; Suarez, A.; Trueblood, F.M.

In addition to the six faculty members listed above, the Latin American Faculty consists of more than 80 members from 29 departments, who teach over 100 courses with Latin America content available to undergraduates in the Latin American Studies Program.

The Center for Latin American Studies offers a Certificate in Latin America Studies, based upon a special curriculum and a departmental major leading to the degree of Bachelor of Arts or Bachelor of Science in the College of Liberal Arts and Sciences, the College of Agriculture, the College of Education, the College of Journalism and Communications and the College of Business Administration.

For a description of the Undergraduate Programs in Latin American Studies see CENTER FOR LATIN AMERICAN STUDIES and STUDY ABROAD. Also consult the course offerings of the various departments in this catalog, the Graduate School Catalog, and the Bulletin published by the Center for Latin American Studies. Copies of the Bulletin may be obtained at 319 Linton E. Grinter Hall.

UNDERGRADUATE COURSES

LAS 2001 Introduction to Latin America. S.
Credits: 3
Interdisciplinary introduction to the study of Latin American societies and cultures. The course

serves to give the student a general knowledge of the Latin American area and its people as well as provide a basis for further course work in the field of Latin American Studies.

LAS 4905 Individual Work. F, S, SS.
Credits: 1 to 3; For Undergraduates only.
Qualified students may choose a topic which focuses on the Latin America area but which cuts across disciplines. Prior consent is needed from instructor involved. May be repeated with change of content up to a maximum of 10 credits.

LAS 4935 Latin American Area Seminar. F, S, SS.
Credits: 3; Prereq: Latin American area concentration.
A multidisciplinary approach to Latin American topics. Required of all candidates for B.A./B.S. certificate in Latin American Studies. May be repeated with change of content up to a maximum of 9 credits.

GRADUATE COURSES

LAS 6905 Individual Work. F, S, SS.
Credits: 1 to 3

LAS 6938 Latin American Area Seminar. F.
Credits: 3; Maximum of 9 credits.

LAS 6971 Master's Research. F, S, SS.
Credits: 1 to 15††

Law

GRADUATE COURSES

LAW 6285 Latin American Legal Institutions Seminar. S.
Credits: 1 to 4

LAW 6286 Latin American Trade and Investment Seminar. SS.
Credits: 1 to 4

LIBERAL ARTS AND SCIENCES
College of Liberal Arts and Sciences

General and Cross-Departmental Courses

College Honors Program

IDS 2931 Freshman Honors Seminar. F, S.
Credits: 3
Required of, and restricted to, freshman students in the College Honors Program. A course focusing on great books, major figures, or epochal ideas, offering topics not normally available among regular departmental listings. Required each semester of the freshman year; may be repeated once for credit with change of topic.

IDS 3931 Sophomore Interdisciplinary Honors Seminar. F, S.
Credits: 3
Required of, and restricted to, sophomore students in the College Honors Program. A team-taught interdisciplinary course, focusing on a topic or issue of significance from the perspectives of two or more disciplines; may be repeated once for credit with change of topic.

European Studies

EUS 4935 European Studies Seminar. S.
Credits: 3; Prereq.: Senior standing and permission of the adviser of Western European Studies Program. Contact Prof. Frank Taylor for further information, 392-2126.

Health Care Administration

HSC 1005 Introduction to Medicine and Dentistry. F, S.
Credits: 1††
The role of medicine and dentistry in today's society; preprofessional preparation; professional school admission standards and criteria, medical practice and professional ethics. Designed to provide insight into the nature of the medical profession, skills required in its practice, and the opportunities for careers following graduation from professional school.

Humanities and the Professions

Courses Approved for General Education:

CLA 3791 The Ancient City. F.
Credits: 3
An examination of the concepts and physical characteristics of Greek and Roman cities.

ENG 4834 Humanities and Engineering. S.
Credits: 3
Studies in the relation of the humanities to engineering and applied science.

HCA 4410L Humanities and Medicine. F, S.
Credits: 3
Studies in the significance of values, humanities constructs and methods of inquiry as related to crises, problems, and decisions found in contemporary medical care. Course will focus on the physician-patient relationship.

HIS 2463 Introduction to the History of Science: Origins to the Renaissance. F.
Credits: 3
An introduction to the emergence of scientific thought from its mythopoeic beginnings to the time of Newton. The course will focus on the interrelationships among science, philosophy and religion in Greece, Islam, and the Latin West Special emphasis is given to Copernicus, Kepler, Galileo, Descartes, and Newton.

HIS 2464 Introduction to the History of Science: Renaissance to the Present. S.
Credits: 3
A general survey of the major issues in physical and biological science from the time of Galileo to the present. Emphasis will be placed on the impact of scientific development on society, culture, and thought.

HIS 3470 History of Technology I. F.
Credits: 3
The development of technology and engineering from antiquity to approximately 1750 with emphasis on the relationship of this development to the growth of the Western civilization.

HIS 3471 History of Technology II. S.
Credits: 3
The development of technology and engineering from approximately 1750 to World War I with emphasis on the relationship of this development to the changing patterns of life in Western civilization.

HIS 3490 History of Western Medicine.
Credits: 3
Beginning with primitive societies, the course will trace the development of ideas of medical treatment, concepts of disease, and the growth of medical knowledge over the centuries. Students will also have the opportunity to perform research on an aspect of medical history of interest to them.

HIS 3491 Social History of American Medicine.
Credits: 3
A topical approach to the origins and special problems of the healing professions in America. Emphasis is on social history rather than on technological developments. Topics may vary each time the course is offered. Students may repeat the course when topics change.

HUM 4564 Humanities and Law. F, S.
Credits: 3
Studies in the relationships between law and language, relation of law to history, society, and human values. The course will attempt to define law as a manifestation of human cultures and basic values.

IDS 3181 Social Ethics. F, S.
Credits: 3
A critical introduction designed to develop one's capacity to think clearly and intelligently about ethical issues that arise in relation to such social institutions and professions as government, business, medicine, engineering and law. Readings will be both theoretical and applied. Invited national speakers.

IDS 4162 Humanities and Business Administration. F, S.
Credits: 3
Inquiries into moral and ethical problems of business.

PHI 2630 Contemporary Moral Issues.
Credits: 3
Will examine ethical issues relating to the practice of agriculture and agribusiness, including problems concerning the obligations of the affluent to make it possible for the less affluent in the world to have the necessaries for a healthy life, the effects of agribusiness practices on the world's peoples and their resources, the values intrinsic to rural vs. urban life forms, and our obligations to use both our resources and the forms of life we share with the world in a caring manner. We shall also be concerned with problems concerned with the implications of agricultural research decisions.

PHI 4633 Ethical Issues in Medicine. F, S.
Credits: 3
A critical introduction designed to develop the student's capacity to think clearly and intelligently about contemporary ethical issues in medicine; e.g., abortion, euthanasia, human experimentation, allocation of scarce resources and biomedical engineering.

Other Undergraduate Courses

ANT 2141 The Development of World Civilization. F, S.
Credits: 3
This is a basic course which offers a world-wide, cross-cultural perspective to human cultural development from the beginning of human life through the elaboration of food production and the rise of state systems. *Particular attention is paid to the emergence of food production systems during the "neolithic revolution" covering human adaptation to the changing pliesto-scene climates.* It also covers domestication of plants and animals, modifications of human social and economic organization, and so forth.

ANT 4255 Rural Peoples in the Modern World. S.
Credits: 3
Will deal in cross cultural perspectives with the nature of human life in rural societies and cultures. Food producers are studied in their regional and national contexts. Relationships between food production, social organization, kinship, religion, and other cultural elements are discussed.

EGN 4036 Engineering Professionalism and Ethics. F, S.
Credits: 2; Prerequisite: Senior standing.
A discussion of professionalism and ethics in the practice of engineering. The development of the concepts of professionalism and ethics and the traditional practice of these concepts are considered in relation to changing situations in practice in a variety of employment conditions. Case histories will be discussed.

ENC 4255 Propaganda and the Humanities. S.
Credits: 3
A study of the techniques of propaganda and of the relationship of propaganda to the humanities.

HIS 3477 The Two Cultures: Science vs. Humanities
Credits: 3
Multi-disciplinary view of science in the modern world. Historians, scientists, philosophers, and

††Grading is on S-U basis only.

men of letters explore the historical tension (and apparent rift) between science and humanities: modern concepts of fact, theory, value, creativity, change.

HSC 2531 Health and Life Science Terminology.
Credits: 3
An intensive study of Greek and Latin word roots, suffixes, and prefixes, and how they are used and combined to form the specialized vocabulary of the various health and life sciences.

IDS 3170 Agriculture and Humanities: What Will We Do With Our Land? S.
Credits: 3
This course will cover weekly topics such as American Society and Agriculture as a way of life; The Jeffersonian Vision of American Agriculture; The Future of the Family Farm; Agribusiness; Institutionalization and Individual Freedom; among many others.

LIT 3431: The Literature of Science. S.
Credits: 3
A close reading of major scientific works that have shaped man's view of the universe and his place in it. Included are works by such figures as Galileo, Harvey, Newton, Darwin, Freud, and Einstein.

PHI 4460C Philosophical Issues in Agriculture. S.
Credits: 3
An examination of the most fundamental relationships between human beings and the land and life forms sustaining them. Issues include the nature and goals of agricultural life, how the model of industrial productivity affects agriculture, and the choices we have to make concerning the future of agriculture.

GRADUATE COURSES

REL 5178 Law Ethics, and Politics.
Credits: 3

Interdisciplinary Studies

IDS 1120 Introduction to the Legal Profession. F, S.
Credits: 1††
The role of law in today's society; prelaw preparation; law school admission standards and criteria; law practice and the legal profession. Designed to provide insight into the nature of the legal profession, the skills required in the practice of law, and the opportunities for careers following graduation from law school.

IDS 4163 Selling as a Way of Life. F.
Credits: 3
An examination of certain fundamental humanistic aspects of the business profession.

IDS 4182 Ethical Issues in Medicine. F, S.
Credits: 3
A critical introduction designed to develop the student's capacity to think clearly and intelligently about contemporary ethical issues in medicine; e.g., abortion, euthanasia, human experimentation, allocation of scarce resources and biomedical engineeering.

IDS 4905 Individual Study. F, S, SS.
Credits: 1 to 7
For select undergraduates undertaking indepth college approved courses of study. The project, as part of the student's planned program, must be approved by the Dean and carried out under the guidance of a faculty member.

IDS 4906 Interdisciplinary Thesis Research, F, S, SS.
Credits: 1 to 7. Coreq: Acceptance into Interdisciplinary Major Program and approval of Director.

††Grading is on S-U basis only.

IDS 4925 Interdisciplinary Workshop in Social Issues. F, S, SS.
Credits: 1 to 3
For each semester, the content of this course will be recommended by the chairpersons of the Divisions of the College and approved by the Curriculum Committee. May be repeated for a maximum of 10 credits with change of topic.

IDS 4940 Practicum. F, S, SS.
Credits: 1 to 3
Permission of departmental representative or program required. Supervision experience in a local, county, state or federal agency. Supervision by a faculty member or delegated authority and a post-practicum written report is required.

LINGUISTICS
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Chu, C.C., Director; Brown, W.S.; Burns, A. F.; Byrd, H. P.; Casagrande, J.; Conner, J.W.; de Beaugrande, R.; Der-Houssikian, H.; Gellinek, C.J.; Harder, J.C.; Hardman, M.J.; Hollien, H.; Jensen, P.J.; Kotey, P.A.; McCarthy, K.M.; Markel, N.N.; Miller, D.G.; Rothman, H.B.; Scholes, R.J.; Scott, J.; Simon, T.W.; Su, S. Y-W.; Sullivan, W.J.; Thompson, R.M.; Vance, T.

Linguistics is an interdisciplinary program which offers a major leading to the B.A. degree. This major is designed to provide a background in the study of language, linguistic structures and linguistic theory. Applications for admission into the Program should be addressed to Dr. Chauncey Chu, Director, Linguistics Program (Phone: 904-392-0639), University of Florida, Gainesville, FL. 32611.

Requirements

The student who gains admission to the Program must earn a grade of C or higher in a minimum of 35 semester hours distributed as follows:

A) These four courses (12 credits)
- LIN 3010 Introduction to Linguistics
- LIN 3221 The Sounds of Human Language
- LIN 3340 Traditional Grammars
- LIN 3611 Languages and Dialects

B) One course from each of the following subgroups (i.e. B.1-B.3)

B.1 Phonetics/Phonology (3 credits)
- LIN 3200 Phonetic Transcription
- POR 4770 Portuguese Phonetics and Phonology
- FRE 4780 French Phonetics
- SPN 4780 Spanish Phonetics

B.2 Structure (3 credits)
- RUS 4700 Structure of the Russian Language
- SWA 4850 The Structure of Swahili
- FRE 4850 Introduction to the Structure of French
- SPN 4850 Introduction to the Structure of Spanish

The selected structure course must be in a language other than that which a student uses to fulfill the foreign language requirement of the College.

B.3 Social/Behavioral (2 to 4 credits)
- LIN 3700 Language and the Brain
- SPA 4404 Language Development and Language Disorders
- ANT 4620 Principles of Anthropological Linguistics

C) Finally, the student should take at least fifteen (15) credits of linguistically oriented courses approved by the Undergraduate Coordinator. Students should consult the Coordintor before signing up for any courses under this section (i.e. Section C). Credits obtained under this section cannot be used to satisfy College elective requirements.

Honors

A student who wishes to graduate with Honors in Linguistics must earn a GPA of 3.5 or higher in the major and in other upper division courses and also write an original Senior Thesis (LIN 4970, Senior Thesis, 4 cr. May be taken three times).

High Honors

To graduate with High Honors in Linguistics, a student must write an original Senior Thesis (LIN 4970, Senior Thesis, 4 cr. May be taken three times) and also earn a GPA of 3.7 or higher in the major as well as in other upper division work.

Students who wish to major in Linguistics should consult the Undergraduate Coordinator, Dr. Paul Kotey, 107 Grinter Hall, Phone: 392-1024, before planning a schedule.

TEFL

The Linguistics Program administers the English Language Institute. This institute offers an intensive non-credit program in English for speakers of other languages.

Linguistics

LIN 2000 Language and People. F, S, SS.
Credits: 3
The nature of human language, its origins, and its relationship to thinking and behavior.

LIN 2001 Language, The Individual and Society. F.
Credits: 3
How language structures the interaction of the individual with the environment.

LIN 3010 Introduction to Linguistics. F, S, SS.
Credits: 3
Survey of the main areas of the discipline, covering such topics as phonetics, phonology, syntax, morphology, semantics, dialects, linguistic change, linguistic diversity, writing, neurolinguistics and computational linguistics.

LIN 3221 The Sounds of Human Language. F.
Credits: 3
Study of sounds, their patterning, and function in languages of the world.

LIN 3340 Traditional Grammars. S.
Credits: 3
Review and evaluation of the principles of traditional grammar as reflected in the works of the best grammarians. Illustrations in several languages. Comparison of varieties of grammatical models used to describe these languages. Evaluation of degree to which a grammar developed essentially for Latin describes other languages, particularly non-Indoeuropean languages. Practice and evaluation of different models of parsing.

LIN 3371 Non-Western Languages 1. F.
Credits: 5; Prereq: Permission of the program.
Basic language instruction in non-western languages such as Arabic, Aymara, Ga, Shona, or Yoruba.

LIN 3372 Non-Western Languages 2. S.
Credits: 5; Prereq: LIN 3371.
Continuation of basic language instruction in nonwestern languages such as Arabic, Aymara, Ga, Shona, or Yoruba.

LIN 3611 Languages and Dialects. F, S.
Credits: 3
An introduction to the defining characteristics and varieties of human natural languages and dialects. Presentations include: a model of the nature of language, a survey of language families, the unity of languages and their diversity, areal linguistics, pidgins, creoles and international languages.

LIN 3700 Language and the Brain. S.
Credits: 2
How sentences are produced, understood, and remembered by the human language user. Linguistic studies of aphasia, mental retardation, and selected communicative skills such as reading will be considered.

LIN 4203 Forensic Issues in Linguistics. F.
Credits: 3
Analysis of stored speech, recording, and decoding of phonemic speech, authentication of tape recordings, speaker identification, stress analysis and quantitative analysis of language.

LIN 4905 Individual Study in Linguistics. F, S, SS.
Credits: 1 to 3
Individual study for Linguistics majors.

LIN 4970 Senior Thesis.
Credits: 4; max. of 12

Other Courses

Other LIN courses are listed elsewhere in this catalog.

GRADUATE COURSES

Linguistics

LIN 5715 Language Acquisition.
Credits: 3

LIN 6118 History of Linguistics.
Credits: 3

LIN 6128 Historical Linguistics.
Credits: 3

LIN 6129 Studies in Linguistic Change.
Credits: 3; max. of 9.

LIN 6222 Introduction to Phonological Studies.
Credits: 3

LIN 6240 Phonological Theory.
Credits: 3

LIN 6241 Studies in Phonology.
Credits: 3; max. of 9.

LIN 6322 Introduction to Syntactic Studies.
Credits: 3

LIN 6377 Structure of a Specific Language.
Credits: 3

LIN 6380 Syntactic Theory.
Credits: 3

LIN 6381 Studies in Syntax and Semantics.
Credits: 3; max. of 9

LIN 6435 Gathering and Analysis of Linguistic Data.
Credits: 3

LIN 6436 Seminar in Linguistic Field Methods.
Credits: 3; max. of 9

LIN 6600 Sociolinguistics.
Credits: 3

LIN 6622 Bilingualism in America.
Credits: 3

LIN 6720 Second Language Acquisition.
Credits: 3

LIN 6905 Individual Study.
Credits: 1 to 4; max. 20

LIN 6910 Supervised Research.
Credits: 1 to 5††

LIN 6932 Rotating Topics.
Credits: 3; max. of 27

LIN 6940 Supervised Teaching.
Credits: 1 to 5††

LIN 6971 Research for Master's Thesis.
Credits: 1 to 15††

LIN 7980 Research for Doctoral Dissertation.
Credits: 1 to 15††

TSL 6371 Materials and Techniques for TESL.
Credits: 3

TSL 6375 TESL Observation and Analysis.
Credits: 2

ENG 6571 American Social Dialects.
Credits: 3

MANAGEMENT AND ADMINISTRATIVE SCIENCES

College of Business Administration

INSTRUCTIONAL STAFF 1981-82

Tosi, H., Chairman; Benson, H.; Champion, J.; Cornelius, W.; Elnicki, R.; Feldman, D.; Feldman, J.; Fogler, H.; Fox, W.; Gomez, L.; Horowitz, I.; James, J.; Jermier, J.; Majthay, A.; McCann, J.; Reitz, H.; Young, J.

Management and Administrative Sciences

MAN 3010 Principles of Management.
Credits: 3
Fundamentals of management underlying the solution of problems of organization and operation of business enterprises.

MAN 3151 Organizational Behavior.
Credits: 3; Prereq: MAN 3010 or consent of instructor.
The individual, interpersonal and group relations, and intergroup and organizational problems in business. Open only to Business Administration students.

MAN 4052 Management Philosophy and Practice.
Credits: 4; Prereq: MAN 3151 or consent of instructor.
Contrasting philosophies of management. Leading management theories. Current issues in management practices. Open only to management majors.

MAN 4109 Applications in Organizational Behavior.
Credits: 1 to 4; Prereq: MAN 3151; senior standing or consent of instructor.
An in-depth examination of current applications of organizational theory and research in modern organizations. May be repeated with change of content up to a maximum of 8 credits.

MAN 4110 Applications in Personal Management.
Credits: 3; Prereq: MAN 4310 or consent of instructor.
The content of the course is variable. Examination, in detail, of very specific subject matter in personnel management.

MAN 4201 Principles of Organization.
Credits: 4; Prereq: MAN 3010.
The process of combining the factors of production through a functional structure to achieve enterprise objectives.

MAN 4310 Problems in Personnel Management.
Credits: 4; Prereq: MAN 3010; ECO 3411, and one statistics course or consent of instructor.
Personnel practices and interpersonal relationships involved in managing employees.

MAN 4410 Collective Bargaining.
Credits: 4; Prereq: MAN 4310 or consent of instructor.
The practice and techniques of collective bargaining with respect to the interrelationships of the individual worker, the union, the employer, and the general public.

MAN 4720 Business Policy.
Credits: 4; Prereq: Completed College core and senior standing.
Business policies correlating the functions of sales, procurement, personnel and finance in various industries.

MAN 4905 Individual Work in Management.
Credits: 1 to 5; Prereq: Senior standing and permission of department. A written report is required.

GRADUATE COURSES

MAN 6051 Managerial Planning.
Credits: 4

MAN 6107 Motivation in Organizational Settings.
Credits: 4; Prereq: MAN 6156 or consent of instructor.

MAN 6208 Theory and Skills of Organization Development.
Credits: 4; Prereq: MAN 6156 or consent of instructor.

MAN 6321 Personnel Techniques and Administration.
Credits: 4; Prereq: MAN 4310.

MAN 6421 Problems in Collective Bargaining.
Credits: 4

MAN 6511 Production Management Problems.
Credits: 3

MAN 6905 Individual Work in Management.
Credits: 1 to 5; max: 10; Prereq: MAN 6156 or consent of instructor.

MAN 6910 Supervised Research.
Credits: 1 to 5††; Prereq: MAN 6156.

MAN 6940 Supervised Teaching.
Credits: 1 to 5††

MAN 6971 Research for Master's Thesis.
Credits: 1 to 15††

MAN 7108 Concepts and Methods in the Behavioral Sciences.
Credits: 3; Prereq: Consent of instructor.

MAN 7206 Organizational Behavior.
Credits: 3; Prereq: Consent of instructor.

MAN 7207 Organization Theory.
Credits: 3; Prereq: Consent of instructor.

MAN 7925 Workshop in Management.
Credits: 1 to 3; max: 12; Prereq: GEB 6757, MAN 7108, STA 6357 or equivalent.

MAN 7931 Special Topics in Management.
Credits: 3; Prereq: MAN 7206, 7207 and consent of instructor.

MAN 7933 Seminar in Management.
Credits: 3; Prereq: MAN 7206, 7207 and consent of instructor.

MAN 7980 Research for Doctoral Dissertation.
Credits: 1 to 15††

Quantitative Methods in Business

QMB 4701 Managerial Operations Analysis 1.
Credits: 3; Prereq: QMB 3700.
Introductory survey of quantitative methods for managerial decision making, including linear programming and related techniques, with applications to business and economic analysis.

QMB 4702 Managerial Operations Analysis 2.
Credits: 3; Prereq: QMB 4701 or MAN 6511.
Introduction to deterministic and probabilistic models for managerial decision making, including mathematical programming and statistical models. Primarily for students who have taken QMB 4701 or the equivalent.

QMB 4703 Managerial Operations Analysis 3.
Credits: 3; Prereq: COP 3210; MGF 2202 or QMB 3700.
Concepts and technique of the simulation approach applied to complex managerial problems.

††Grading is on S-U basis only.

GRADUATE COURSES

QMB 6607 Decision Processes Under Uncertainty.
Credits: 4; Prereq: STA 4321, 4322.

QMB 6697 Optimization in Simulation Modeling.
Credits: 3; Prereq: COP 3210 or equivalent.

QMB 6808 Markov Decision Processes.
Credits: 4; Prereq: QMB 4703.

QMB 6809 Decision Processes Under Conflict.
Credits: 3; Prereq: GEB 6757.

QMB 6827 Linear Programming for Management Scientists.
Credits: 4; Prereq: GEB 6757.

QMB 6857 Optimization in Static Managerial Models.
Credits: 4; Prereq: GEB 6757.

QMB 6865 Optimization in Dynamic Managerial Decision Models.
Credits: 4; Prereq: QMB 6857.

QMB 6877 Integer Programming and Network Flows.
Credits: 3; Prereq: GEB 6757.

MARKETING
College of Business Administration
INSTRUCTIONAL STAFF 1981-82

Cohen, J.B., Chairman; Ahtoldo, T.; Alba, J.W.; Bechtel, G.G.; Chakravarti, D.; Falzone, R.; Faricy, J.H.; Hutchinson, J.W.; Jacobs, M.S.; Kamwar, R.;Lynch, J.G.; Moore, D.L.; Ofir, C.; Wilkie, W.L.

Courses numbered 3000 or higher are open only to students with Junior standing. Note, however, the specific prerequisites for certain courses.

MAR 3023 Principles of Marketing. F, S, SS.
Credits: 3
Functions, institutions, and methods of marketing goods and services. Relates marketing to the larger economic structure and emphasizes the importance of the consumer.

MAR 3203 Management of Channel Systems and Institutions. F, S, SS.
Credits: 4; Prereq: MAR 3023, ACC 2001.
Analysis of alternative channels for distributing goods from the perspective of both producers and middlemen. Particular emphasis is given to the management of retail institutions.

MAR 3503 Consumer Behavior. F, S, SS.
Credits: 4; Prereq: MAR 3023, STA 3023.
Emphasizes both descriptive and conceptual analysis of consumer behavior with a focus on concepts and research essential to an understanding of individual choice behavior. Makes extensive use of contributions from the social and behavioral science literatures.

MAR 4243 International Marketing. F, S.
Credits: 4; Prereq: MAR 3023, STA 3023, ACC 2001.
Analysis of economic, social and cultural issues affecting marketing management in the international environment.

MAR 4303 Promotional Strategy and Management. F, S, SS.
Credits: 4. Prereq: MAR 3503, ACC 2001, STA 3023.
The management of the total marketing communication function. Stresses development of objectives for promotion and the planning and integration of promotional programs with other aspects of the marketing mix.

MAR 4403 Sales Management. F, S, SS.
Credits: 4; Prereq: MAR 3023, STA 3023, ACC 2001.
Principles, methods, and problems relating to the management of a sales force. Selection and training, organization, compensation and stimulation, and control.

MAR 4613 Marketing Research. F, S, SS.
Credits: 4, Prereq: MAR 3023, ECO 3411, QMB 3700.
Analyzes the role of marketing research in providing information for marketing decisions and examines alternative research methods and techniques (e.g., survey sampling, data collection, experimentation, statistical analysis) involved in the development and use of primary and secondary data

MAR 4614 Research in Marketing and Consumer Behavior. S.
Credits: 4, Prereq: MAR 4613, MAR 3503.
Design and execution of empirical research on marketing or consumer behavior topics. Students will be required to design and carry out research and analyze data as part of a course project.

MAR 4713 Marketing Management. F, S, SS.
Credits: 4; Prereq: MAR 4613, ACC 2001 and senior standing.
Development and analysis of overall marketing strategies involving product and brand development, channels of distribution, pricing and promotion with explicit consideration of marketplace conditions and related factors affecting implementation and execution.

MAR 4905 Independent Study. F, S, SS.
Credits: 1 to 4; Prereq: Senior standing and previous work in the area selected for research. Admission is by consent of the department.

MAR 4933 Special Topics in Marketing. F, S.
Credits: 4, Prereq: Permission of Department.
Selected rotating topics in marketing management, research, and theory. May be repeated with a change of content up to a maximum of 8 credits.

GRADUATE COURSES

MAR 6246 International Marketing.
Credits: 4

MAR 6346 Promotional Strategy and Planning.
Credits: 4

MAR 6506 Consumer Behavior.
Credits: 4

MAR 6516 Public Policy Research and Marketing Practices.
Credits: 4

MAR 6606 Marketing Decision Models.
Credits: 4

MAR 6616 Marketing Research for Managerial Decision Making.
Credits: 4

MAR 6716 Problems and Methods of Marketing Management.
Credits: 3

MAR 6717 Advanced Marketing Management.
Credits: 4

MAR 6806 Marketing Theories and Issues.
Credits: 4

MAR 6905 Individual Work.
Credits: 1 to 4; maximum: 8.

MAR 6910 Supervised Research.
Credits: 1 to 5††

MAR 6933 Special Topics in Marketing.
Credits: 4

MAR 6940 Supervised Teaching.
Credits: 1 to 5††

MAR 6971 Master's Research.
Credits: 1 to 15††

MAR 7507 Perspectives on Consumer Behavior.
Credits: 5

MAR 7518 Consumer Information Processing and Decision Making.
Credits: 5

MAR 7622 Design of Marketing Research.
Credits: 4

MAR 7625 Advanced Statistical Analysis in Marketing Research.
Credits: 5

MAR 7627 Subjective Measurement in Marketing and Survey Research.
Credits: 4

MAR 7628 Multidimensional Scaling for Market and Societal Analysis.
Credits: 4

MAR 7639 Workshop in Marketing Research.
Credits: 3; May be repeated with a change of content up to a maximum of 9 credits.

MAR 7980 Doctoral Research.
Credits: 1 to 15††

MATERIALS SCIENCE AND ENGINEERING
COLLEGE OF ENGINEERING
INSTRUCTIONAL STAFF 1981-82

Verink, E.D., Jr., Chairman; Abbaschian, G.J.; Adams, B.L.; Ambrose, J.R.; Bates, S.R.; Batich, C.D.; Beatty, C.L.; Connell, R.G., Jr.; DeHoff, R.T.; Goldberg, , E.P.; Gould, R.W.; Hench, L.L.; Holloway, P.H.; Hren, J.J.; Hummel, R.E.; Moudgil, B.M.; Onoda, G.Y., Jr.; Reed-Hill, R.E.; Rhines, F.N.; Rummel, R.A.; Whitney, E.D.

EMA 3010C Materials 1. F, S, SS.
Credits: 3; Prereq: CHM 2042C.
Elements of crystallography, plasticity, properties of aggregates, structure of polymers, binary phase diagrams and physical properties of solids.

EMA 3040C Ceramic Science for the Potter. F.
Credits: 2
Introduction to scientific principles of forming, drying, and firing various types of pottery. Analyses of good and bad ceramic bodies and glazes using engineering methods to help improve the artist's technique.

EMA 3050 Introduction to Ceramic Materials.
Credits: 3; Prereq: EMA 3010C.
Uses, structure, processing and properties of ceramic materials. Scientific principles are introduced through discussion of recently developed ceramics for high technology applications.

EMA 3060C Xerography as an Art Form.
Credits: 3
Principles of xerography equipment for making art objects.

EMA 3066 Polymer Science and Engineering. F.
Credits: 3; Prereq: EMA 3010C. Organic Chemistry desirable.
Introduction to preparation, molecular structure-property relationships, processing and applications of macromolecular materials.

EMA 3123 Metallurgical Engineering. F.
Credits: 3; Prereq: EMA 3010.
Preparation, structure, properties and applications of ferrous materials.

EMA 3413C Electronic Properties of Materials. S.
Credits: 3
Band model description of the electrical, magnetic and optical properties of solids. Laboratory included

EMA 3513 Analysis of the Structure of Materials. S.
Credits: 3; Prereq: EMA 3010.
Crystal structure and bonding in solids with an overview of the tools available for characterizing materials.

††Grading is on S-U basis only

EMA 4121 Materials 2. S.
Credits: 4; Prereq: EMA 3010
Physical metallurgy of ferrous and non-ferrous metals and their alloys. A correlation of properties, structural and mechanical history, thermal history, and service behavior of the various metals and their alloys.

EMA 4125 Microstructural Transformations in Materials. S.
Credits: 3; Prereq: EMA 4314.
Paths, energetics, mechanisms and kinetics of processes that alter the microstructure of materials.

EMA 4144 Physical Characteristics of Ceramics. F.
Credits: 3: Prereq: EMA 3050 or consent of instructor.
Structure of complex ceramic compounds and glasses. Influence of structural imperfections and stoichiometry on physical characteristics, surface and interfacial phenomena, diffusion and phase transformations in ceramic systems.

EMA 4145 Ceramic Microstructures. S.
Credits: 3; Prereq: EMA 4144 or consent of instructor.
Influence of ceramic microstructure on processing. Chemical bonds, surface phenomena, forming energetics, drying and firing kinetics. Diffusion, nucleation, crystal growth, solid-solid and solid-liquid reactions.

EMA 4161 Polymer Physics. F.
Credits: 3; Prereq: EMA 3066; Coreq: EMA 4161L
Solid state properties of amorphous and semicrystalline polymers.

EMA 4161L Polymer Physics Laboratory. F.
Credits: 1; Prereq: EMA 3066; Coreq: EMA 4161.
Measurement of solid state properties of polymers using microscopy, spectroscopy, diffraction and light scattering.

EMA 4223 Mechanical Behavior of Materials. F.
Credits: 3; Prereq: EGM 3520.
Plastic deformation and fracture of metals and alloys, ceramics and polymers.

EMA 4224C Mechanical Metallurgy. S.
Credits: 3; Prereq: EMA 4223.
Continuation of EMA 4223. Mechanical testing laboratory included.

EMA 4262 Mechanical Properties of Polymers. S.
Credits: 3; Prereq: EMA 3066.
Linear and non-linear viscoelastic behavior of polymers with emphasis on molecular and microstructural aspects.

EMA 4262L Polymer Mechanical Properties Laboratory. S.
Credits: 2; Prereq: EMA 3066; Coreq: EMA 4262.
Mechanical property testing in linear and non-linear viscoelastic regimes of polymeric materials.

EMA 4266 Polymer Rheology.
Credits: 3; Prereq: EMA 3066.
Flow of polymer melts as influenced by molecular and microstructural variables.

EMA 4314 Energetics and Kinetics in Materials Science. S.
Credits: 3
Foundations of energetics and kinetic theory with applications to processes in materials science.

EMA 4324 Stability of Materials. F.
Credits: 3; Prereq: EMA 4314 or consent of instructor.
Mechanisms, energetics and kinetics of corrosion and degradation of engineering materials. Economic solutions to degradation problems based upon design and materials selection.

EMA 4522L Metallurgy Laboratory 1 — Metallography and Photography. S.
Credits: 1
Laboratory techniques in physical metallurgy with practical emphasis on the surface preparation and photographic recording of the structure of materials. Includes heat treatment, quenching, mechanical forming and mechanical testing of metals and alloys.

EMA 4524C X-ray and Electron Metallography. F.
Credits: 3; Prereq: EMA 3513.
X-ray and electron scattering and diffraction with applications to problems in materials analysis. Laboratory included.

EMA 4582L Laboratory in Nondestructive Testing Techniques. F.
Credits: 1; Prereq: EMA 3010.
The technology of nondestructive testing techniques including: liquid penetrant testing, magnetic particle testing, ultrasonic inspection, eddy current inspection and radiology.

EMA 4623 Process Metallurgy. F.
Credits: 4; Prereq: PHY 2042 and CHM 2043C.
Principles of pyrometallurgy, hydrometallurgy and electrometallurgy with applications to specific ferrous and non-ferrous metals.

EMA 4634C Metal Fabrication. S.
Credits: 4
Processes involved in forming and joining metals and alloys. Laboratory included.

EMA 4643C Ceramic Glazes. S.
Credits: 2; Prereq: EMA 3040C.
Glaze calculations and formulations using programmed instruction assuming little math background. Laboratory to create new individualized glazes.

EMA 4645 Processing of Ceramic Materials. S.
Credits: 3
Introduction to the technology and science of processing ceramic materials, including traditional clay-based ceramics, modern technical ceramics, and glasses. Topics include the nature of fine particles, forming methods, and consolidation by heat.

EMA 4666 Polymer Processing. S.
Credits: 2 to 3; Prereq: EMA 3066; Coreq: EMA 4666L.
Major processing methods for polymers and polymeric composites as related to the rheological behavior of these systems. Synthesis of polymers via industrial processes.

EMA 4666L Polymer Processing Laboratory. S.
Credits: 2; Prereq: EMA 3066; Coreq: EMA 4666.
Use of polymer processing equipment; industrial methods for synthesizing polymers.

EMA 4680C Metals Joining Processes and Design 1. F.
Credits: 3; Prereq: EMA 4121; Coreq: EMA 4223.
Metallurgy of metals joining processes including laboratory exercises in soldering, brazing and welding. Selection of processes and design of products manufactured by joining processes.

EMA 4681L Metals Joining Processes and Design 2. S.
Credits: 3; Prereq: EMA 4680.
Continuation of EMA 4680.

EMA 4712C Failure Analysis of Materials.
Credits: 2; Prereq: EMA 4121.
Basic principles of metal failure and failure analysis including fractography, ductile and brittle fracture, fatigue and wear. Engineering/legal problems of failure.

EMA 4714 Materials Selection and Failure Analysis. S.
Credits: 3
Philosophy and practice of engineering selection of materials. Case studies in product liability and failure analysis.

EMA 4905 Individual Work in Materials Science and Engineering. F, S, SS.
Credits: 1 to 4; Maximum of 8 credits.
Selected problems or projects in the student's major field of engineering study. May be repeated for credit with change of content.

EMA 4913 Research in Materials Science and Engineering 1. F, S, SS.
Credits: 2
Short research problems in materials science and engineering, usually including a final thesis.

EMA 4914 Research in Materials Science and Engineering 2. F, S, SS.
Credits: 2; Prereq: EMA 4913.
Continuation of EMA 4913.

EMA 4935 Special Topics in Materials Science and Engineering. F, S, SS.
Credits: 1 to 3; Maximum of 8 credits.
Laboratory, lectures, or conferences covering specially selected topics in materials science and engineering. May be repeated with change of content.

EMA 4940 Field Trips in Materials Science. SS.
Credits: 1††
Field trips to materials preparation and processing industries in the southeastern states.

EMA 4949 Co-op Work Experience. F, S, SS.
Credits: 1††; Prereq: 4 EG classification; one term industrial employment, including extra work according to a pre-approved outline.
Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

GRADUATE COURSES

EMA 6106 Advanced Phase Diagrams.
Credits: 3

EMA 6110 Electron Theory of Solids for Materials Scientists 1.
Credits: 3

EMA 6111 Electron Theory of Solids for Materials Scientists 2.
Credits: 3

EMA 6112 Electron Theory of Solids for Materials Scientists 3.
Credits: 3

EMA 6126 Advanced Physical Metallurgy 1.
Credits: 4

EMA 6127 Advanced Physical Metallurgy 2.
Credits: 4

EMA 6136 Diffusion in Solids.
Credits: 3

EMA 6137 Nuclear Materials and Radiation Damage.
Credits: 3

EMA 6146 Atomic Processes in Crystalline Ceramics.
Credits: 3

EMA 6147 Structure and Properties of Glasses.
Credits: 3

EMA 6165 Polymer Physics.
Credits: 3

EMA 6165L Polymer Physics Laboratory.
Credits: 1

EMA 6166 Polymer Composites.
Credits: 3

EMA 6226 Advanced Mechanical Metallurgy 1.
Credits: 3

EMA 6227 Advanced Mechanical Metallurgy 2.
Credits: 3

EMA 6265 Mechanical Properties of Polymers.
Credits: 3

††Grading is on S-U basis only.

EMA 6265L Polymer Mechanical Properties Laboratory.
Credits: 2

EMA 6267 Polymer Rheology.
Credits: 3

EMA 6316 Metallurgical Thermodynamics.
Credits: 3

EMA 6326 Advanced Topics in Corrosion.
Credits: 2

EMA 6446 Electronic Processes in Crystalline Ceramics.
Credits: 3

EMA 6448 Ceramic Processing.
Credits: 3

EMA 6461 Advanced Polymer Physics.
Credits: 3

EMA 6507C Scanning Electron Microscopy and Electron Probe Microanalysis.
Credits: 3

EMA 6508 Quantitative Microscopy.
Credits: 3

EMA 6514L X-ray Spectrochemical Analysis.
Credits: 2

EMA 6516 Advanced X-ray Diffraction 1.
Credits: 4

EMA 6518L Transmission Electron Microscopy.
Credits: 3

EMA 6519L Specialized Research Techniques in Materials Science.
Credits: 1 to 2; Maximum of 10 credits.

EMA 6580 Science of Biomaterials 1.
Credits: 3

EMA 6581 Science of Biomaterials 2.
Credits: 3

EMA 6667 Polymer Processing.
Credits: 2 to 3

EMA 6667L Polymer Processing Laboratory.
Credits: 2

EMA 6905 Individual Work in Materials Science and Engineering.
Credits: 1 to 4; May be repeated with change of content up to a maximum of 8 credits.

EMA 6910 Supervised Research.
Credits: 1 to 5††

EMA 6936 Seminar in Materials Science and Engineering.
Credits: 1; Course continued for two semesters. Deferred grade "H" may be assigned.

EMA 6937 Seminar in Metallurgy and Ceramic Science.
Credits: 1 to 2

EMA 6938 Special Topics in Materials Science and Engineering.
Credits: 1 to 4; May be repeated with change of content up to a maximum of 6 credits.

EMA 6940 Supervised Teaching.
Credits: 1 to 5††

EMA 6971 Master's Research.
Credits: 1 to 15††

EMA 7008 Product Liability: Effective Use of Engineering Experts.
Credits: 2

EMA 7980 Doctoral Research.
Credits: 1 to 15††

††Grading is on S-U basis only.

MATHEMATICS
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Bednarek, A.R., Chairman; Pop-Stojanovic, Z.R., Assoc. Chairman; Bacon, P.; Baird, B.B.; Bernard, W.; Block, L.; Bowman, T.T.; Brechner, B.L.; Brooks, J.K.; Burnap, C.A.; Cenzer, D.A.; Chen, S.; Crummer, A.A.; Dinculeanu, N.; Drake, D.A.; Edwards, B.H.; Hale, M.P.; Hart, D.; Kalman, R.E.; Keesling, J.E.; Kenoyer, S.T.; Larson, J.A.; Lasiecka, I.; Long, R.L.; Luehr, C.P.; Majthay, E.; Martinez, J.; McKenna, P.J.; Moore, T.O.; Nelson, C.W.; Popov, V.M.; Rao, M.; Ritter, G.A.; Ritter, G.X.; Row, A.W.; Saxon, S.A.; Sigmon, K.N.; Sikivie, P.; Teply, M.L.; Triggiani, R.; Ulam, S.M.; Varma, A.K.; Vince, A.; Walsh, T.; White, N.L.; Willard, D.; Wilson, D.C.

General Information

Students should refer to Part 1 of the College of Liberal Arts and Sciences portion of this catalog (information for freshmen and sophomores) to learn what mathematics course(s) are required for their intended major. If calculus is not required, MGF 1113 is appropriate as a general education mathematics course. (Of course, higher level courses may be taken instead if the student so desires.)

Those who must take calculus and whose high school mathematics background is weak should begin with MAC 1132 and follow it by MAC 3223 or MAC 3311, whichever is required. Students who need MAC 1132 and who are deficient in high school algebra may begin with MAT 1033.

Students with very strong mathematics backgrounds should consult a mathematics adviser about taking MAC 3472 or placing ahead in the MAC 3311 sequence.

Requirements for Mathematics Majors

Listed below are the departmental requirements which must be met in order to receive the Bachelor of Science or Bachelor of Arts degree with a major in mathematics. Students considering the possibility of a major in mathematics are strongly urged to obtain from the Mathematics Department office, Walker 201, a brochure which gives additional and more detailed information regarding the undergraduate major programs as well as information on career options available to the undergraduate mathematics major. The student is also urged to regularly consult a departmental advisor.

I. REGULAR MATHEMATICS MAJOR PROGRAM

The following course work must be completed with a grade of C or better.

A. CORE COURSES	Credits
Calculus: MAC 3311-12-13 or MAC 3472-3-4	12
Differential Equations: MAP 3302	3
Computer Programming: COP 3212 or COC 3110	2-3
Statistics: STA 4321	3
Linear Algebra: MAS 4103, MAS 3114, or MAS 3113	3-4
Abstract Algebra: MAS 4311	3
Advanced Calculus: MAA 4102-3 or MAA 4211-12	6
TOTAL	33-34

NOTE: Credit toward meeting the requirements for the major will be given for at most one of MAS 4103, MAS 3114, and MAS 3113.

B. ELECTIVE COURSES

Twelve (12) elective credits must be earned as follows. At least one of the two-course elective packages must be completed. The remaining elective courses must be chosen from the elective list.

1. ELECTIVE PACKAGES

Pure Mathematics: One of the following sequences. MTG 4302-3, MAD 4203-4, MAS 4104 and MAS 4312, MHF 4102 and MHF 4203.

Applied Mathematics: Two courses from MAP 4303 or MAP 4316, MAP 4341, MAA 4402, MAD 4401, MAD 4124, MAP 4413, MAD 4203.

Statistics: STA 4322 and STA 4202.

Computer Science: COP 3530 and one of MAD 4401, MAS 4124, MAD 4203, MAD 4504, MAD 3104.

Operations Research: ESI 4312 and one of ESI 4313, MAD 4401, MAD 4124, MAD 4203.

Alternate but analogous elective packages may be developed subject to the approval of the departmental Undergraduate Committee.

2. ELECTIVE LIST

Mathematics: MAD 3104, MAS 3203, MHF 3202 and any course at the 4000-level or above with the prefix MAA, MAD, MAP, MAS, MHF, or MTG.

Statistics: STA 4322, 4202, 4203.

Computer and Information Sciences: COP 3530, COP 3603, CDA 3101.

Industrial and Systems Engineering: ESI 4312, 4313, 4221.

II. MATHEMATICS SECONDARY EDUCATION PROGRAM

This program is for students wishing to obtain a mathematics major through the College of Liberal Arts and Sciences while simultaneously becoming certified to teach secondary school mathematics. The following course work must be completed with a grade of C or better.

A. MATHEMATICS COURSES	Credits
Calculus: MAC 3311-12 or MAC 3472-3	8
Computer Programming: COP 3312 or COC 3110	3
Statistics: STA 4321 or STA 3023	3
Linear Algebra: MAS 4103, MAS 3114, or MAS 3113	3-4
Algebra: MAS 3301 and MAS 4311	6
Geometry: MTG 3212	4
Elective (See below)	3
TOTAL	30-31

The elective course must be chosen from MAC 3313, MAP 3302, MAS 3203, MHF 3202 and any course at the 4000-level or above with the prefix MAA, MAD, MAP, MAS, MHF, or MTG.

NOTE: Credit toward meeting the requirements for the major will be given for at most one of MAS 4103, MAS 3114, and MAS 3113.

B. EDUCATION COURSES	Credits
EDF 3135	3
EDF 3514, 3604, 4542, or 4710	3
ESE 4210	3
MAE 4330	3
ESE 4011	3
ESE 4943	11
TOTAL	26

NOTE: At most 16 credit hours of the above education courses will count toward the minimum hours required for graduation.

III. PHYSICAL SCIENCES DISTRIBUTION REQUIREMENT

It is recommended that all mathematics majors meet the College of Liberal Arts and Sciences distribution requirement in the physical sciences with the Physics Sequence PHY 2048-2049.

IV. DEPARTMENTAL BACCALAUREATE HONORS

To receive Departmental Honors, the student shall earn a grade point average of 3.5 or higher on at least 18 credit hours of the course work in the mathematical sciences at the 4000-level or above used to meet the requirements for the B.S. or B.A. Degree in mathematics.

Mathematics—Analysis

MAA 4102 Introduction to Advanced Calculus for Engineers and Physical Scientists 1. F, S.
Credits: 3; Prereq: MAC 3313 or MAC 3474.
Review of limits, differentiation, and integration; calculus of vector functions; line and surface integration; calculus of variations; Fourier series. Material presented with view to applications.

MAA 4103 Introduction to Advanced Calculus for Engineers and Physical Scientists 2. S, SS.
Credits: 3; Prereq: MAA 4102.
A continuation of MAA 4102.

MAA 4211 Advanced Calculus 1. F.
Credits: 3; Prereq: MAC 3313 or MAC 3474.
An advanced treatment of limits, differention, integration, series; calculus of functions of several variables.

MAA 4212 Advanced Calculus 2. S.
Credits: 3; Prereq: MAA 4211.
A continuation of MAA 4211.

MAA 4226 Introduction to Modern Analysis 1. F.
Credits: 3
Topology of metric spaces, numerical sequences and series, continuity, differentiation, the Riemann-Stielties integral, sequences and series of functions, the Stone-Weierstrass theorem, functions of several variables, Stokes' theorem, the Lebesque theory.

MAA 4227 Introduction to Modern Analysis 2. S.
Credits: 3
A continuation of MAA 4226.

MAA 4402 Elements of Complex Variables for Engineers and Physical Scientists. F, S, SS.
Credits: 3; Prereq: MAC 3313 and MAP 3302.
Complex numbers, analytic functions, Cauchy-Riemann equations, harmonic functions, elementary functions, integration, Cauchy-Goursat theorem, Cauchy integral formula, infinite series, residues and poles, conformal mapping.

Mathematics: Calculus and Precalculus

MAC 1132 Algebra and Trigonometry. F, S, SS.
Credits: 4
Elementary Algebra, Functions and Coordinate Geometry, and Trigonometry. Does not count as major credit in mathematics. This course is especially important for students planning to take calculus and who do not have the necessary algebra and trigonometry background.

MAC 3223 Survey of Calculus 1. F, S, SS.
Credits: 3; Prereq: MAC 1132 or equivalent.
A geometric and heuristic approach to calculus; differentiation and integration of simple algebraic and exponential functions, applications to graphing, marginal analysis, optimization, areas and volumes.

MAC 3224 Survey of Calculus 2. F, S, SS.
Credits: 3; Prereq: MAC 3223 or equivalent.
Sequences, geometric and Taylor series; systems of linear equations, Gaussian elimination, matrices, determinants and vectors; partial differention, multiple integrals; applications to marginal analysis, least squares and Lagrange multipliers.

MAC 3311 Analytic Geometry and Calculus 1. F, S, SS.
Credits: 4; Prereq: Knowledge of trigonometry and algebra.
Introduction to analytic geometry; limits; continuity; differentiation of algebraic and trigonometric functions, differentials; introduction to integration and the fundamental theorem of calculus.

MAC 3312 Analytic Geometry and Calculus 2. F, S, SS.
Credits: 4; Prereq: MAC 3311.
Techniques of integration; applications of integration; differentiation and integration of inverse trigonometric, exponential and logarithmic functions; sequences and series.

MAC 3313 Analytic Geometry and Calculus 3. F, S, SS.
Credits: 4; Prereq: MAC 3312.
Solid Analytic Geometry; vectors; partial derivatives; multiple integrals.

MAC 3472 Honors Calculus 1. F.
Credits: 4
A first course in calculus for students who particularly enjoy and have a sound background in mathematics. The topics covered in the sequence MAC 3472-3-4 closely parallel those covered in MAC 3311-2-3 but are treated in greater depth.

MAC 3473 Honors Calculus 2. S.
Credits: 4; Prereq: MAC 3472.
A continuation of MAC 3472.

MAC 3474 Honors Calculus 3. F.
Credits: 4; Prereq: MAC 3473.
A continuation of MAC 3473.

Mathematics—Discrete

MAD 3104 Applications of Discrete Structures. F.
Credits: 3; Prereq: CDA 3101 or consent of instructor.
Sets, relations, functions, and concept of cardinality; propositional logic and applications; predicate logic, induction, and recursion; finite state machine, grammar, and languages; graphs and trees; elements of groups, semigroups, lattices, and boolean algebra.

MAD 4203 Introduction to Combinatorics 1. F.
Credits: 3; Prereq: MAC 3312.
Permutations and combinations, binomial coefficiants, inclusion-exclusion, recurrance relations, Fibonacci sequences, generating functions, graph theory, block designs, projective planes.

MAD 4204 Introduction to Combinatorics 2. S.
Credits: 3
A continuation of MAD 4203.

MAD 4401 Numerical Analysis: A Computational Approach. F, S.
Credits: 3; Prereq: One of MAS 3114, MAS 4103, and MAS 3113 and a programming language.
Numerical Integration, nonlinear equations, linear and non-linear systems of equations, differential equations and interpolation.

MAD 4504 Theory of Computing. S.
Credits: 3; Prereq: COP 3530 or consent of instructor.
Finite and infinite state machines; Turing machines, formal languages and their recognition automata; recursive functions; decidability and unsolvability; halting problem; space-time tradeoff.

Mathematics Education

MAE 3810 Mathematics for Elementary School Teachers 1. F, S, SS.
Credits: 2
A study of the structure of whole numbers and newer mathematical topics included in modern elementary school mathematics programs.

MAE 3811 Mathematics for Elementary School Teachers 2. F, S, SS.
Credits: 2; Prereq: MAE 3810.
Properties and operations of rational numbers, ratio, proportion, percent, an introduction to real numbers, and informal geometry and measurement.

MAE 4830 Mathematics for Secondary School Teachers. S.
Credits: 3; Prereq: 4 hours of college mathematics or permission of instructor.
Logic, nature of proof; the ordered field of real numbers; sequences, series and the limit concept; relations and functions; complex numbers.

Mathematics—Applied

MAP 3302 Elementary Differential Equations. F, S, SS.
Credits: 3; Prereq: MAC 3312.
First order differential equations, theory of linear differential equations, solution of linear equations with constant coefficients, the Laplace transform, solution of equations by the Laplace transform.

MAP 4103 Mathematical Modeling. S.
Credits: 3; Prereq: MAC 3313, MAP 3302, and one of MAS 4103, MAS 3113, MAS 3114; Recommended: Statistics and a computer language.
The conception, construction, and testing of simple mathematical models of real world phenomena. The tools of elementary linear algebra and differential equations will be applied to such areas as population dynamics, economics, optimization, social interactions, political science, and medicine. Term project: The construction and testing of a model of a real world problem of interest to the student.

MAP 4305 Introduction to Differential Equations for Engineers and Physical Scientists. F, S, SS.
Credits: 3; Prereq: MAP 3302.
Series solutions of differential equations, Sturm-Liouville Systems.

MAP 4316 Advanced Differential Equations. F.
Credits: 3; Prereq: MAP 3302 and MAS 4103, or consent of instructor.
An introduction to the qualitative theory of differential equations; covers both linear and nonlinear systems.

MAP 4341 Elements of Partial Differential Equations. S.
Credits: 3; Prereq: MAP 3302. Recommended MAP 4305.
Origin and solution of partial differential equations by various methods including Lagrange linear equations; elementary partial equations of mathematical physics.

MAP 4413 Fourier Series and Transforms. F.
Credits: 3; Prereq: MAP 3302; Recommended MAP 4305.
Introduction to linear systems and transforms. Laplace, Fourier and Z transforms and their mutual relationship, convolutions. Operational calculus, computational methods including the fast Fourier transform, second order stationary processes, their autocorrelation functions, and problems of interpolation, extrapolation, filtering and smoothing or second order stationary processes.

MAP 4480 Introductory Mathematics for Biological Sciences 1. F.
Credits: 3; Prereq: MAC 3311.
Difference equations, differential equations, probability theory, matrix theory, and Markov chains with applications in the biological sciences. Among the applications covered are population dynamics, epidemiology, and genetics.

MAP 4481 Introductory Mathematics for Biological Sciences 2. S.
Credits: 3; Prereq: MAP 4480.
A continuation of MAP 4480.

Mathematics: Algebraic Structures

MAS 3113 Matrices and Vector Spaces. F, S, SS.
Credits: 3; Prereq: MAC 3311 or MAC 3223.
Linear equations and matrices, elementary determinants, linear geometry of Euclidean spaces, vector spaces and linear transformations, eigenvalues.

MAS 3114 Computational Linear Algebra. F, S, SS.
Credits: 3; Prereq: MAC 3312 and knowledge of a programming language.
Linear equations, matrices and determinants. Vector spaces and linear transformations. Inner products and eigenvalues. This course emphasizes computational aspects of linear algebra.

MAS 3203 Introduction to Number Theory. S, SS.
Credits: 3; Prereq: 6 hours of mathematics.
Divisibility, primes and composites, divisors, multiples, Euclid's algorithm. Diophantine equations, modular arithmetic and simple continued fractions.

Descriptions

MATHEMATICS

MAS 3301 Numbers and Polynomials. F, SS.
Credits: 3; Prereq: MAC 3311 or MAC 3223.
Algebraic and order properties of the real numbers, introduction to number theory, rational numbers and their decimal expansions, uncountability of the real numbers, complex numbers, irreducible polynomials over the integral, rational, real and complex numbers, elementary theory of equations. This course is primarily for mathematics secondary education majors.

MAS 4103 Linear Algebra 1, F. S.
Credits: 4; Prereq: MAC 3313.
Linear equations, matrices, vector spaces, linear transformations, determinants, eigenvalues, inner product spaces. This course is more theoretical than MAS 3113 or MAS 3114.

MAS 4104 Linear Algebra 2. S.
Credits: 3; Prereq: 4103.
Further topics in linear algebra.

MAS 4124 Numerical Methods in Linear Algebra. F.
Credits: 3; Prereq: A computer language and one of MAS 4103, MAS 3113, and MAS 3114.
Advanced topics in the solution of linear equations, matrix methods, and eigenvalue problems. Numerical methods will be stressed.

MAS 4156 Introduction to Vector Analysis. F, S, SS.
Credits: 3; Prereq: MAC 3313.
Vector Analysis including the integral theorems; applications.

MAS 4311 Abstract Algebra 1. F, S.
Credits: 3; Prereq: MAC 3311 and one of MAS 4103, MAS 3113, and MAS 3114.
Sets and mappings, groups and subgroups, homomorphisms and isomorphisms, permutations, rings and domains, arithmetic properties of domains, fields. The course involves learning to prove theorems.

MAS 4312 Abstract Algebra 2. S.
Credits: 3; Prereq: MAS 4311.
Further topics in abstract algebra.

Mathematics

MAT 1033 Basic Algebra. F, S, SS.
Credits: 1
A programmed course for students with deficiencies in algebra. Topics include real numbers, solving linear and quadratic equations, radicals, exponents, graphing, logarithms, and an introduction to trigonometry.

MAT 4905 Individual Work. F, S, SS.
Credits: 1 to 3; Maximum of 10 credits; Prereq: MAC 3313 and permission of Chairman of Department.
For special topics not obtainable in the regular course offerings. May be repeated for credit.

MAT 4930 Special Topics in Mathematics. F, S, SS.
Credits: 1 to 3; Prereq: Permission of the Chairman of the Department's Undergraduate Advisory Panel who should be consulted well in advance of registration.
May be repeated for credit. Maximum of 16 credits.

MAT 4949 Co-op Work Experience. F, S, SS.
Credits: 1;†† Prereq: MAC 3313 and junior or senior standing.
Practical co-op work experience as administered through the Cooperative Education Program of the Career Resource Center and coordinated by the mathematics department cooperative education adviser.

††Grading is on S-U basis only.

Mathematics: General and Finite

MGF 1113 Fundamental Mathematics. F, S, SS.
Credits: 3
A general education course which includes the study of the characteristics and the development of particular mathematical systems as well as the fundamental concept underlying mathematical systems in general.

MGF 2202 Finite Mathematics. F.
Credits: 3; Prereq: MAC 1132 or equivalent.
Introductory course in partitions and counting; probability theory, Markov chains, matrices and vectors, linear programming, and game theory. Material presented with applications in business, biology, and social science.

Mathematics: History and Foundations

MHF 3202 Sets and Logic. F, SS.
Credits: 3; Prereq: MAC 3311 or consent of instructor.
Examples of sets, operations on sets, set algebra, Venn diagrams, truth tables, tautologies, applications to mathematical arguments and mathematical induction.

MHF 4102 Elements of Set Theory. F.
Credits: 3; Prereq: A 4000-level mathematics course.
The basic axioms and concepts of set theory. Students present proofs.

MHF 4202 Foundations of Mathematics. S.
Credits: 3; A sequel to MHF 4102 or MHF 3202.
Models and proofs. Foundations of the real and natural numbers. Algorithms, Turing machines, undecidability and independence. Examples and applications in algebra, analysis, geometry and topology.

MHF 4404 History of Mathematics. SS.
Credits: 3; Prereq: 9 hours of mathematics or permission of instructor.
A survey of the historical development of precalculus mathematics.

Mathematics: Topology and Geometry

MTG 3212 Geometry 1. F.
Credits: 4; Prereq: 6 hours of mathematics.
A systematic study of the axiomatic structure of Euclidean geometry, including a comparison of the metric (Birkhoff) and synthetic (Hilbert) developments of absolute geometry; parallelism, similarity, area, lines and planes in space, solid mensuration.

MTG 4302 Elements of Topology 1. F.
Credits: 3; Prereq: A 4000-level course in mathematics or consent of instructor.
The basic concepts of general topology.

MTG 4303 Elements of Topology 2. S.
Credits: 3
Continuation of MTG 4302.

GRADUATE COURSES

Mathematics—Analysis

MAA 5102 Advanced Calculus for Engineers and Physical Scientists 1.
Credits: 3.

MAA 5103 Advanced Calculus for Engineers and Physical Scientists 2.
Credits: 3; Prereq: MAA 5102.

MAA 5226 Modern Analysis 1.
Credits: 3; Prereq: MAC 3313.

MAA 5227 Modern Analysis 2.
Credits: 3; Prereq: MAA 5226.

MAA 5402 Introduction to Complex Variables for Engineers and Physical Scientists.
Credits: 3.

MAA 5506 Introduction to Functional Analysis 1.
Credits: 3.

MAA 5507 Introduction to Functional Analysis 2.
Credits: 3; Prereq: MAA 5506.

MAA 6236 Mathematical Analysis for Statisticians.
Credits: 3; Coreq: STA 6326.

MAA 6406 Complex Analysis 1.
Credits: 3; Prereq: MAA 5227.

MAA 6407 Complex Analysis 2.
Credits: 3; Prereq: MAA 6406.

MAA 6616 General Theory of Measure and Integration 1.
Credits: 3; Prereq: MAA 5227.

MAA 6617 General Theory of Measure and Integration 2.
Credits: 3; Prereq: MAA 6616.

MAA 6626 Advanced Topics In Integration 1.
Credits: 3; Prereq: MAA 6617 and MTG 6347.

MAA 6627 Advanced Topics in Integration 2.
Credits: 3; Prereq: MAA 6626.

MAA 7526 Advanced Topics in Functional Analysis 1.
Credits: 3; max: 6; Prereq: MAA 6617, MAS 6347.

MAA 7527 Advanced Topics in Functional Analysis 2.
Credits: 3; max: 6; Prereq: MAA 7526.

Mathematics—Discrete

MAD 5405 Numerical Methods of Differential Equations
Credits: 3

MAD 6206 Combinatorial Theory 1.
Credits: 3

MAD 6207 Combinatorial Theory 2.
Credits: 3; Prereq: MAD 6206.

MAD 6407 Numerical Analysis.
Credits: 3; Prereq: MAA 4212, 5227 or MAD 4401.

MAD 7396 Topics in Combinatorial Theory 1.
Credits: 3; Prereq: MAS 5332.

MAD 7397 Topics in Combinatorial Theory 2.
Credits: 3; Prereq: MAD 7396.

Mathematics Education

MAE 6940 Supervised Teaching.
Credits: 1 to 5 ††

Mathematics—Applied

MAP 5304 Intermediate Differential Equations for Engineers and Physical Scientists.
Credits: 3

MAP 5345 Introduction to Partial Differential Equations.
Credits: 3

MAP 5484 Mathematics for Biological Sciences 1.
Credits: 3; Prereq: MAC 3311.

MAP 5485 Mathematics for Biological Sciences 2.
Credits: 3; Prereq: MAP 5484.

MAP 6216 Introduction to Calculus of Variations for Engineers and Physical Scientists.
Credits: 3; Prereq: MAP 5304, MAS 5156 or equivalent.

MAP 6327 Applied Differential Equations 1.
Credits: 3; Prereq: MAA 5227.

MAP 6328 Applied Differential Equations 2.
Credits: 3; Prereq: 6327.

MAP 6356 Partial Differential Equations 1.
Credits: 3; Prereq: MAA 5227, MAP 5341 or 6506.

MAP 6357 Partial Differential Equations 2.
Credits: 3; Prereq: MAP 6356.

MAP 6417 Fourier Series 1.
Credits: 3; Prereq: MAP 6505.

MAP 6418 Fourier Series 2.
Credits: 3; Prereq: MAP 6417.

MAP 6467 Stochastic Differential Equations and Filtering Theory 1.
Credits: 3

MAP 6468 Stochastic Differential Equations and Filtering Theory 2.
Credits: 3; Prereq: MAP 6467.

MAP 6472 Probability and Potential Theory 1.
Credits: 3; Prereq: MAA 5226, 5227, STA 6326.

MAP 6473 Probability and Potential Theory 2.
Credits: 3; Prereq: MAP 6472.

MAP 6487 Biomathematics Seminar 1.
Credits: 3; Prereq: MAC 3312, MAP 3302, STA 6327.

MAP 6488 Biomathematics Seminar 2.
Credits: 3; Prereq: MAP 6780. Continuation of MAP 6487.

MAP 6505 Mathematical Methods of Physics and Engineering 1.
Credits: 3; Prereq: MAA 5402, MAP 5304, 5345, MAS 5156 or equivalent.

MAP 6506 Mathematical Methods of Physics and Engineering 2.
Credits: 3; Prereq: MAP 6505.

MAP 7436 Seminar in Applied Mathematics 1.
Credits: 3; max: 6.

MAP 7437 Seminar in Applied Mathematics 2.
Credits: 3; max: 6.

MAP 7475 Seminar in Mathematical System Theory.
Credits: 3; Prereq: admission to doctoral study.

MAP 7477 Introduction to Mathematical System Theory 1.
Credits: 3; Prereq: consent of instructor. H.

MAP 7478 Introduction to Mathematical System Theory 2.
Credits: 3. May be repeated.

Mathematics: Algebraic Structures

MAS 5156 Vector Analysis.
Credits: 3

MAS 5331 Introductory Algebra 1.
Credits: 3; Prereq: MAS 4103 or 4312.

MAS 5332 Introductory Algebra 2.
Credits: 3; Prereq: MAS 5331.

MAS 5334 Rings, Modules and Linear Algebra.
Credits: 3; Prereq: undergraduate linear algebra.

MAS 6158 Tensor Analysis.
Credits: 3, Prereq: MAS 5156 or equivalent.

MAS 6346 Algebra 1.
Credits: 3; Prereq: MAS 5332.

MA 6347 Algebra 2.
Credits: 3; Prereq: MAS 6346.

MAS 7215 Theory of Numbers 1.
Credits: 3; Prereq: 2 of MAA 6407, 6618, MAS 6347.

MAS 7216 Theory of Numbers 2.
Credits: 3; Prereq: MAS 7215.

MAS 7396 Advanced Topics in Algebra 1.
Credits: 3; max: 6; Prereq: MAA 6407, 6617, MAS 6347 or MTG 6347.

MAS 7397 Advanced Topics in Algebra 2.
Credits: 3; max: 6; Prereq: MAS 7396.

Mathematics

MAT 6905 Individual Work.
Credits: 3; max: 9.

MAT 6910 Supervised Research.
Credits: 1 to 5††

MAT 6932 Special Topics in Mathematics.
Credits: 3; Prereq: consent of graduate adviser.

MAT 6971 Research for Master's Thesis.
Credits: 1 to 15††

MAT 7980 Research for Doctoral Dissertation.
Credits: 1 to 15††

Mathematics: History and Foundations

MHF 5107 Introduction to Set Theory.
Credits: 3

MHF 5207 Foundations of Mathematics.
Credits: 3; Prereq: MHF 5107 or equivalent.

MHF 6306 Mathematical Logic 1.
Credits: 3.

MHF 6307 Mathematical Logic 2.
Credits: 3; Prereq: MHF 6306.

Mathematics: Topology and Geometry

MTG 5316 Introduction to Topology 1.
Credits: 3

MTG 5317 Introduction to Topology 2.
Credits: 3; Prereq: MTG 5316.

MTG 6256 Differential Geometry 1.
Credits: 3; Prereq: MAS 5156 or equivalent.

MTG 6257 Differential Geometry 2.
Credits: 3; Prereq: MTG 6256.

MTG 6266 Introduction to Commutative Algebra and Algebraic Geometry 1.
Credits: 3

MTG 6267 Introduction to Commutative Algebra and Algebraic Geometry 2.
Credits: 3; Prereq: MTG 6266.

MTG 6276 Theory of Convexity 1.
Credits: 3

MTG 6277 Theory of Convexity 2.
Credits: 3; Prereq: MTG 6276.

MTG 6346 Topology 1.
Credits: 3; Prereq: MTG 5317.

MTG 6347 Topology 2.
Credits: 3; Prereq: MTG 6346.

MTG 7396 Advanced Topics in Topology 1.
Credits: 3; max: 6; Prereq: MTG 6347.

MTG 7397 Advanced Topics in Topology 2.
Credits: 3; max: 6.

MECHANIZED AGRICULTURE
College of Agriculture
(Administered by the Department of Agricultural Engineering)

MAG 3052 Engineering Concepts and Agriculture. F.
Credits: 3
Introduction to agricultural mechanization, management of related natural resources, energy systems, application of energy and technology, environmental protection and social interactions.

MAG 3220 Agricultural Mechanics 1. F.
Credits: 3
Basic principles and development of manual and managerial skills in relation to hand and power tools in construction, repair, and maintenance of agricultural machines and equipment.

MAG 3312 Farm Machinery. F, SS.
Credits: 3
The functional requirements, operating principles, performance, safety, and economic application of agricultural field machines and mechanized systems of production.

MAG 3503 Agriculture and Environmental Quality. S, SS.
Credits: 3
Analysis of effects of agriculture on environmental quality; emphasis on agricultural wastes and practices; potential for using agricultural systems for disposal of other wastes; effects of pollution on the agricultural environment.

MAG 3732 Water Management. S, SS.
Credits: 3
Basic hydrology; rainfall, intensity, depth, frequency, distribution and runoff. Conservation practices, land drainage, irrigation and management alternatives are emphasized.

MAG 4062 Principles of Food Engineering. F.
Credits: 4; Prereq: MAC 1132 and five credits of physics.
The functional requirements and principles of operation of systems for handling and processing of food and agricultural products.

MAG 4225 Agricultural Mechanics 2. S, SS.
Credits: 3; Prereq: MAG 3220 and upper division classification
Principles, practices, and decision making in construction, selection, operation, and maintenance of agricultural machines, buildings, and utilities.

MAG 4642 Environmental Systems for Agricultural Structures. S.
Credits: 3; Prereq: MAC 1132.
Effects of the environment on plant and animal production, processing operations, and quality of stored produce. Selection of building materials and sizing of components of environmental systems in agricultural structures to enhance more efficient agricultural production, processing and storage.

MAG 4941 Full Time Practical Work Experience in Mechanized Agriculture. F, S, SS.
Credits: 1 to 4††; Prereq: Prior arrangement with advisor, approval of Department Chairman and Dean.

MECHANICAL ENGINEERING
College of Engineering

INSTRUCTIONAL STAFF 1981-82

Gaither, R.B., Chairman; Duffy, J.; Farber, E.A.; Freeman, W.L.; Gater, R.A.; Hansen, E.C.; Hsieh, C.K.; Ingley, H.A.; Ingman, H.M.; Irey, R.; Mahig, J.; Matthew, G.K.; Oliver, C.C.; Patterson, E.P.; Proctor, C.L.; Piotrowski, G.; Roan, V.P.; Samuel, J.A.; Sandor, G.N.; Tesar, D.; Watts, E.H.

Engineering: General

EGN 2845 Mechanics of Sailing. S.
Credits: 2
Hydrodynamic, aerodynamic and other forces that act on a sailing vessel. Inquires into underwater drag and lift as well as such aerodynamic aspects as apparent wind, stall, and sail interaction. Introduce the concepts of lee and weather helm, live and fixed ballast, and centers of gravity and buoyancy.

††Grading is on S-U basis only.

Descriptions

MECHANICAL ENGINEERING

Engineering Graphics

EGN 1111C Engineering Graphics. F, S, SS.
Credits: 2
Representation of systems in orthographic projection. Engineering drawing and descriptive geometry.

EGN 1130 Descriptive Geometry. F, S.
Credits: 1; Prereq: Training in mechanical drawing.
True length of lines; true shape of planes; true angles; revolution; intersections; developments.

EGN 3123 Computer Assisted Drafting and Design.
Credits: 2; Prereq: Knowledge of Fortran or Basic, and EGN 1111.
The use of computer assisted graphics in analytical design. Solution of representational problems in many areas, including CAD.

EGN 4114 Engineering Graphical Analysis. S.
Credits: 2; Prereq: MAC 3313, EGM 3420 and departmental graphics requirement.
The use of graphics in analytical design, graphical methods in the solution of specialized problems including structural analysis, machine dynamics and synthesis.

Engineering: Mechanical

EML 3005C Introduction to Mechanical Engineering Design. F, S.
Credits: 3; Prereq: EGN 1111, PHY 2048.
Study and application of the design process, as related to mechanical and thermal systems. Exercises in problem definition, idea generation, decision making, selection of standard parts, and graphical, written, and oral communication. Drawing and machine shop laboratories are integrated with the lecture material.

EML 3100 Thermodynamics 1. F, S, SS.
Credits: 3; Prereq: MAC 3313, PHY 2048, CHM 2042.
First and second laws of thermodynamics, microscopic and macroscopic procedures for the calculation of thermodynamic properties, application to example systems.

EML 3101 Thermodynamics 2. F, S, SS.
Credits: 3; Prereq: EML 3100.
Microscopic analysis of transport processes, combustion, thermodynamic cycles, and irreversible thermodynamics.

EML 3202 Mechanisms and Kinematics. F, S, SS.
Credits: 3; Prereq: EGM 3420.
A study of the mechanisms used in machinery and the analysis of the motion obtained.

EML 3260 Machine Dynamics. F, S.
Credits: 3; Prereq: EML 3202; EGM 3420.
Principles of dynamics in the design of machinery.

EML 3301C Instrumentation and Measurements Laboratory. F, S, SS.
Credits: 2; Prereq: STA 3032, EEL 3003.
Use of precision instruments and measurement standards in mechanical engineering. Preparation of engineering reports.

EML 3321 Manufacturing Processes. F, S, SS.
Credits: 2; Prereq: EMA 3010.
Machinery, materials and processes used in manufacturing.

EML 4140L Thermal Sciences Lab 1. F, S.
Credits: 1; Prereq: EML 3101, EML 3301; Coreq: EML 4142.
Experimental verification and demonstration of thermal and thermochemical phenomena

EML 4141L Thermal Sciences Lab 2. S, SS.
Credits: 1; Prereq: EML 4140L; Coreq: EML 4144.
Continued experimental verification and demonstration of thermal and thermochemical phenomena.

††Grading is on S-U basis only.

EML 4142 Mass, Momentum, and Energy Transfer 1. F, S.
Credits: 3; Prereq: EML 3100, MAP 3302; Coreq: EGM 3420.
Steady state and transient analyses of Conduction and Radiation heat transfer, pressure distribution and resultant forces in stationary fluid systems.

EML 4143 Mass, Momentum, and Energy Transfer 2. S, SS.
Credits: 3; Prereq: EML 4142.
Analysis of Mass, Momentum and Energy transport in fluid systems; applications involving ducts, boundary layers and submerged bodies; dimensional analysis and correlations with experimental data.

EML 4144 Mass, Momentum, and Energy Transfer 3. F, SS.
Credits: 2; Prereq: EML 4143; Coreq: EML 4141L.
Analysis of compressible flow, natural convection and phase change heat transfer; analysis and selection of pumps and heat exchangers.

EML 4220 Mechanical Vibrations. F, S.
Credits: 3; Prereq: MAP 3302, EGM 3420.
The single degree of freedom systems, multiple degree of freedom systems. Application to mechanical systems with problems employing computer techniques.

EML 4263 Dynamics of Rotating Machinery. S.
Credits: 3; Prereq: EGM 3420.
Analytical basis of design for machines characterized by high speed or massive rotor-shaft assemblies mounted on various types of bearing supports, as exemplified by turboshaft engines, centrifugal or axial flow compressors, vehicle drive trains, etc.

EML 4411 Mechanical Propulsion Systems. S, SS.
Credits: 3; Prereq: EML 3101.
Gas and liquid fuels, internal combustion engines. Automotive, aircraft, and Diesel power plants.

EML 4411L Mechanical Propulsion Systems Laboratory.
Credits: 1; Coreq: EML 4411.
Testing of lubricants, gasoline, automobile engines, aircraft engines and high and low speed Diesel engines.

EML 4414 Heat Power Engineering.
Credits: 3; Prereq: EML 3101.
Steam power plants and their auxiliary equipment.

EML 4414L Heat Power Engineering Laboratory.
Credits: 1; Coreq: EML 4414.
Analysis of fuels, heating value, flue gas analysis, and the testing of boilers, turbines, engines, and steam plant auxiliary apparatus.

EML 4416 Solar Energy. F.
Credits: 3; Prereq: EML 3100 or permission of instructor.
Nature and availability, collection and storage, solar properties of materials, conversion to heat, power and electricity for domestic and industrial consumption including transportation.

EML 4419 Aircraft Propulsion. F.
Credits: 3; Prereq: EML 3100, EML 4143 or equivalent.
Physical basis of propulsion, gas turbines and ramjet fundamentals. Introduction to compressor and turbine design. Propulsion performance. Unconventional means of propulsion in space.

EML 4450 Energy Conversion. S.
Credits: 3; Prereq: EML 3101.
Thermomechanical and thermoelectric energy conversion. Conventional and unconventional techniques and analysis for energy systems interactions.

EML 4500 Machine Analysis and Design 1. F, S, SS.
Credits: 3; Prereq: EGM 3520; Coreq: EML 3260, or permission of instructor for non-ME students.
Stress analysis of machine elements, design procedure, design of machine elements.

EML 4501 Machine Analysis and Design 2. F, S.
Credits: 3; Prereq: EML 3321, EML 4500.
Advanced problems in design, and the design of a complete machine.

EML 4502 Machine Analysis and Design 3. S.
Credits: 3; Prereq: EML 4501.
Machine systems design.

EML 4522 Mechanical Engineering Analysis. F, S.
Credits: 2; Prereq: MAP 3302, EGM 3420.
Mathematical Analysis and Controls of Mechanical Engineering Systems, including mechanical, eletromechanical, hydraulic, pneumatic and thermal components and subsystems.

EML 4600 Heating and Air Conditioning. S.
Credits: 3; Prereq: EML 4601.
Heating and air conditioning systems. Equipment selection, system arrangement and duct design.

EML 4601 Refrigeration and Air Conditioning. F.
Credits: 3; Coreq: EML 3101.
Refrigerating and air conditioning, apparatus and their applications to the industrial, commercial and residential fields.

EML 4601L Refrigeration and Air Conditioning Laboratory. F.
Credits: 1; Coreq: EML 4601.
Performance tests on air conditioning and refrigeration equipment. AC system design.

EML 4709 Fluid Dynamics.
Credits: 2; Prereq: EGN 3353, EML 3100.
Thermodynamics and mechanics of fluid flow systems, compressible and incompressible flow systems.

EML 4905 Individual Problems in Mechanical Engineering. F, S, SS.
Credits: 1 to 3; Prereq: Approval of Department Counselor. GPA 2.3.
Selected problems or projects in the student's major field of engineering study. May be repeated with a change of content up to a maximum of 12 credits.

EML 4920 Professional Orientation. F.
Credits: 1; Prereq: Senior Engineering Student.
Principles of mechanical engineering practice, professional standards and ethics.

EML 4926 Mechanical Consulting Practice. SS.
Credits: 3; Prereq: Senior standing.
Synthesis and analysis of mechanical engineering systems, planning and execution of engineering contracts, supervision of construction and tests.

EML 4936 Mechanical Engineering Seminar. F, S, SS.
Credits: 1; Prereq: Senior Engineering Student.
Presentation of papers on current developments in mechanical engineering.

EML 4945 Practical Work in Mechanical Engineering. F, S, SS.
Credits: 1 to 3; Prereq: EG Classification.
Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

EML 4949 Co-op Work Experience. F, S, SS.
Credits: 1††; Prereq: Freshman Year. EG Classification. 2.0 GPA.
Practical co-op work experience under approved industrial supervision.

GRADUATE COURSES

EML 5104 Classical Thermodynamics.
Credits: 3

EML 5105 Statistical Thermodynamics.
Credits: 3

EML 5152 Intermediate Heat Transfer.
Credits: 3

EML 5223 Design Synthesis in Vibrations.
Credits: 3

EML 5224 Engineering Acoustics and Noise Control.
Credits: 3

EML 5273 Advanced Dynamics of Machinery.
Credits: 3

EML 5311 Control System Theory.
Credits: 3

EML 5465 Energy Management for Mechanical Engineers.
Credits: 3

EML 5504 Mechanical Design 1.
Credits: 3

EML 5505 Mechanical Design 2.
Credits: 3

EML 5515 Gas Turbines and Jet Engines.
Credits: 3

EML 5526 Biomechanics of Surgical Implants.
Credits: 3

EML 5527 Similitude in Mechanical Engineering Design.
Credits: 3

EML 5605 Advanced Refrigeration.
Credits: 3

EML 5714 Gas Dynamics of Internal Flow Systems.
Credits: 3

EML 6103 Advanced Thermodynamics.
Credits: 3

EML 6108 Advanced Statistical Mechanics and Kinetic Theory.
Credits: 3

EML 6131 Combustion 1.
Credits: 3

EML 6132 Combustion 2.
Credits: 3

EML 6153 Advanced Heat Transfer.
Credits: 3

EML 6154 Conduction Heat Transfer.
Credits: 3

EML 6155 Convective Heat Transfer 1.
Credits: 3

EML 6157 Radiation Heat Transfer.
Credits: 3

EML 6159 Special Topics in Heat Transfer.
Credits: 3

EML 6254 Advanced Noise Control.
Credits: 3

EML 6272 Dynamics of Machine Systems.
Credits: 3

EML 6274 Dynamic Synthesis of Direct Contact Mechanisms.
Credits: 3

EML 6275 Coplanar Kinematic Synthesis 1.
Credits: 3

EML 6276 Coplanar Kinematic Synthesis 2.
Credits: 3

EML 6277 Spatial Kinematic Synthesis and Analysis.
Credits: 3

EML 6278 Advanced Rotor Dynamics.
Credits: 3

EML 6281 Geometry of Mechanisms and Robotics 1.
Credits: 3

EML 6282 Geometry of Mechanisms and Robotics 2.
Credits: 3

EML 6306L Instrumentation and Measurements Laboratory.
Credits: 1

EML 6417 Solar Energy Utilization.
Credits: 3

EML 6418 Special Topics in Solar Energy.
Credits: 3

EML 6452 Energy Conversion.
Credits: 3

EML 6506 Sliding-Element Bearing Analysis and Design.
Credits: 3

EML 6507 Rolling-Element Bearing Analysis and Design.
Credits: 3

EML 6508 Computer-Aided Design Optimization.
Credits: 3

EML 6606 Advanced Air Conditioning 1.
Credits: 3

EML 6607 Advanced Air Conditioning 2.
Credits: 3

EML 6715 Special Topics in Fluid Dynamics.
Credits: 3

EML 6716 Thermodynamics of Fluid Flow 1.
Credits: 3

EML 6717 Thermodynamics of Fluid Flow 2.
Credits: 3

EML 6718 Thermodynamics of Fluid Flow 3.
Credits: 3

EML 6905 Individual Projects in Mechanical Engineering.
Credits: 1 to 3

EML 6906 Advanced Mechanical Laboratory 1.
Credits: 3

EML 6910 Supervised Research.
Credits: 1 to 5††

EML 6911 Mechanical Research 1.
Credits: 1 to 3

EML 6935 Graduate Seminar.
Credits: 1††

EML 6940 Supervised Teaching.
Credits: 1 to 5††

EML 6971 Master's Research.
Credits: 1 to 15††

EML 7980 Doctoral Research.
Credits: 1 to 15††

MEDICAL TECHNOLOGY

College of Health Related Professions

INSTRUCTIONAL STAFF 1981-82

Britt, M.S., Chairman; Bray, J.L.; Fisher, F.; Gutekunst, R.R.; Jordan, V.G.; Liddell, A.; Parrish, J.H.; Pierson, K.K.; Rodeheaver, J.L.; Treece, J.M.

See also course offerings under Health Related Professions (HRP).

Medical Laboratory Sciences

MLS 2030 Introduction to Medical Technology. F, S.
Credits: 1
History, ethics and organizations in the medical laboratory sciences. Discussion of career opportunities.

The courses below are open only to those persons who have been accepted into the Medical Technology Curriculum.

MLS 3308 Fundamentals of Hematology. F.
Credits: 3
Basic theory of clinical hematology including hematopoiesis, hemoglobinometry, cell morphology, introduction to hematologic diseases, principles of hemostasis and examination of other body fluids.

MLS 3308L Fundamentals of Hematology Laboratory. F.
Credits: 1
Development of skills in clinical hematologic procedures and analysis of other body fluids.

MLS 3550 Advanced Immunohematology. S.
Credits: 2
Principles and theories of immunohematology including blood group antigens and antibodies, selection and processing of donors, preparation and use of blood components.

MLS 3550L Advanced Immunohematology Laboratory. S.
Credits: 1
Clinical procedures and special techniques in immunohematology.

MLS 3627 Laboratory Instrumentation and Clinical Biochemistry. S.
Credits: 3
Scientific principles and theory in instrumentation and clinical biochemistry.

MLS 3627L Instrumentation and Clinical Biochemistry Laboratory. S.
Credits: 1
Laboratory procedures emphasizing basic skills in instrumentation and clinical biochemistry.

MLS 3932 Seminar: Essentials of Medical Laboratory Sciences. F.
Credits: 1
Presentation of topics pertinent to each of the basic medical laboratory sciences. Content is germane to current mathematical and instrumental analyses utilized in concurrent and advanced courses.

MLS 3933 Seminar: Current Topics in Clinical Laboratory Sciences. S.
Credits: 1
Various topics for the developing professional in clinical laboratory sciences.

MLS 4320C Advanced Hematology & Coagulation. F, SS.
Credits: 3
Advanced study of abnormal and immature blood cells and their relationship to disease; principles and application of special procedures in hematology and coagulation.

MLS 4460C Advanced Microbiology. F, SS.
Credits: 5
Advanced theory and techniques in clinical microbiology, including specimen handling, laboratory safety, isolation and identification of microorganisms of medical interest.

MLS 4555C Selected Topics in Blood Banking. F, S.
Credits: 1
Theory and application of special techniques for solving advanced problems in blood banking.

MLS 4630C Advanced Clinical Chemistry. F, SS.
Credits: 5
Scientific theory and principles in advanced instrumentation and clinical biochemistry.

MLS 4840C Clinical Laboratory Practicum — Clinical Chemistry. F, S, SS.
Credits: 3
Practical application of laboratory skills during supervised rotations through clinical chemistry laboratories.

††Grading is on S-U basis only.

MEDICINE

MLS 4841C Clinical Laboratory Practicum — Microbiology. F, S, SS.
Credits: 3
Practical application of laboratory skills during supervised rotations through clinical microbiology laboratories.

MLS 4842C Clinical Laboratory Practicum — Hematology. F, S, SS.
Credits: 3
Practical application of laboratory skills during supervised rotations through clinical hematology laboratories.

MLS 4843C Clinical Laboratory Practicum — Blood Banking. F, S, SS.
Credits: 3
Practical application of laboratory skills during supervised rotations through clinical immunohematology laboratories.

MLS 4844C Clinical Laboratory Practicum — Specialty Laboratories. F, S, SS.
Credits: 3
Practical application of laboratory skills during supervised rotations through special clinical pathology laboratories.

MLS 4850 Principles of Clinical Laboratory Methodology — Medical Parasitology and Mycology. SS.
Credits: 2
The study of parasites and fungi of importance to the clinical laboratory scientist including laboratory safety in handling infectious materials.

MLS 4851 Principles of Clinical Laboratory Methodology — Epidemiology. SS.
Credits: 2
Principles of epidemiology as applied in the hospital environment.

MLS 4852 Principles of Clinical Laboratory Methodology — Serology, Toxicology, Immunochemistry. F.
Credits: 2
Principles and theory of clinical laboratory practice in serology, toxicology, and immunochemistry.

MLS 4853 Principles of Clinical Laboratory Methodology — Microbiology, Hematology, Immunohematology. S.
Credits: 2
Principles and theory of clinical laboratory practice in microbiology, virology, hematology, coagulation, and immunohematology.

MLS 4934C Seminar in Medical Technology 1. F.
Credits: 1
Selected topics in medical laboratory education and methodology useful in developing in-service continuing education programs.

MLS 4935C Seminar in Medical Technology 2. S.
Credits: 1
Selected topics in clinical laboratory organization, administration, management, and current research and developments in medical laboratory science.

MLS 4936C Seminar in Medical Technology 3. S, SS.
Credits: 1
Selected topics and clinical case studies related to practice in medical laboratory sciences.

MEDICINE
College of Medicine

For a complete description of the courses offered by the College of Medicine, see the Catalog of the College of Medicine and the Graduate School Catalog.

Interdisciplinary Programs

For well-qualified undergraduates who receive departmental permission, two programs for individual interdisciplinary majors exist within the College of Medicine: one of Biochemical and Neural Sciences and the other in Neurobiology. The former involves course work in the Departments of Biochemistry and Neuroscience and the latter involves course work in the Departments of Neuroscience and Psychology. Both courses involve laboratory research and additional elective courses. Application should be made to the departments concerned in the sophomore or junior years.

BMS 4021 Introduction to Neurochemistry. S.
Credits: 3; Prereq: Biochemistry.
Methods of neurochemical analysis, metabolism and function of nervous system chemicals, synaptic transmission, axoplasmic flow and selected topics of current interest.

BMS 4022 Biochemical and Neural Sciences.
Credits: 1; Prereq: Admission to Interdisciplinary Program in Biochemical and Neural Sciences.
A weekly seminar discussing topics of current interest in the biochemical and neural sciences.

BMS 4023 Current Topics in Brain and Behavior.
Credits: 3; Coreq: BMS 4024.
Biological bases of behavior, and structural and functional correlates of learning.

BMS 4024 Experimental Methods in Brain and Behavior. S.
Credits: 1; Prereq: PSB 3004; Coreq: BMS 4023.
An introduction to current techniques used in research on brain and behavior.

BMS 4025 Introduction to the Neurosciences. F.
Credits: 3-5; Prereq: ZOO 2014 or equivalent and consent of instructor.
Structure and basic functions of the mammalian nervous system. Human neuroanatomy, including peripheral and central structures from spinal cord to cerebral cortex. Fundamental concepts of neurophysiology, including initiation, propagation and synaptic transmission of the nerve impulse. Sensory, motor, and integrative activities. Elements of neurochemistry and neuropharmacology.

BMS 4905 Medical Sciences Senior Research. F, S, SS.
Credits: 3 to 5; Prereq: Senior standing and consent of instructor.
Laboratory or literature investigations of problems of current interest in the medical sciences.

EXP 3719L Laboratory Topics in Psychophysics. F, S.
Credits: 1 to 2; Prereq: PSY 2013 or consent of instructor.
A practicum in experimental methodology. Students collect, analyze, and evaluate data on specific problems related to brain mechanisms of skin sensation.

GRADUATE COURSES

BMS 5511 Vision.
Credits: 3

GMS 5702 Neurohumors and Behavior. S.
Credits: 3

MICROBIOLOGY & CELL SCIENCE
College of Agriculture

INSTRUCTIONAL STAFF 1981-82

Schmidt, R.R., Chairman; Achey, P.M.; Aldrich, H.C.; Bleiweis, A.S.; Brookbank, J.W.; Davis, F.C., Jr.; Duggan, D.E.; Erdos, G.W.; Farrah, S.R.; Gifford, G.E.; Gregg, J.H.; Gurley, W.B.; Hoffmann, E.M.; Ingram, L.O.; Karp, G.C.; Milam, J.R.; Preston, J.F., III; Previc, E.P.; Shanmugam, K.T.; Smith, P.H.; Zam, S.G.

A major in Microbiology and Cell Science requires course background in biology, general and organic chemistry, quantitative analysis, physics and calculus. Major requirements include BCH 4313, MCB 3020C, PCB 3136 and at least 14 credits of junior and senior level departmental course offerings (BCH 4203 may count toward the 14 credits). One advanced laboratory course is required. Undergraduate Research, MCB 490S is not acceptable toward the 14 credits. A course in physical chemistry is recommended for students anticipating later work toward a research graduate degree. Undergraduate majors are required to have their major program approved by an undergraduate adviser from the department.

Applied Biology

APB 2170C Microbiology. F, S.
Credits: 4
The role of microorganisms in chemical transformations, disease, public health and agriculture. Fundamental concepts are discussed, followed by both beneficial and harmful actions in microorganisms as they affect our lives. The laboratory will demonstrate chemical transformations, and present methods for studying microbial properties. Suitable as a general education science course. Not acceptable for admission to advanced microbiology courses.

APB 2401 Radiation, Sunlight and Life. F.
Credits: 1
Biological effects of radiation and sunlight. Beneficial and detrimental radiation action on man's health and welfare.

APB 4544 Human Parasitology. F.
Credits: 3; Prereq: BSC 2010C, BSC 2011C.
Host-parasite relationships of helminth and protozoan diseases important in health sciences and veterinary medicine.

APB 4544L Human Parasitology Laboratory. F.
Credits: 1; Coreq: APB 4544.
Laboratory in human parasitology.

APB 4545L Human Parasitology Laboratory for Medical Technologists. F.
Credits: 1; Coreq: APB 4544.
Diagnostic procedures for identification of human parasitic diseases.

Microbiology

MCB 3020C Basic Biology of Microorganisms with Laboratory. F, S.
Credits: 4; Prereq: Core Biology sequence; one semester organic chemistry.
Structure, nutrition and growth of bacteria; characterization of representative bacteria and viruses; metabolic peculiarities and introduction to microbial genetics; with laboratory exercises demonstrating these aspects of microbiology. Required of all majors.

MCB 4203 Bacterial Pathogens. S.
Credits: 2; Prereq: MCB 3020C; Coreq: PCB 4233.
Host-parasite relationships in the diseases of man and animals. The characteristics of bacterial pathogens. Basic techniques of isolation and identification.

MCB 4203L Experiments with Bacterial Pathogens. S.
Credits: 1; Optional with MCB 4203.

MCB 4303 Genetics of Microorganisms. F.
Credits: 4; Prereq: MCB 3020C. Coreq: BCH 4313.
Microbial and viral genome structure and implications, mutation, gene transfer and genetic mapping, plasmids, recombinant DNA mechanisms and uses.

MCB 4303L Lab for Microbial Genetics. F.
Credits: 2; Prereq: MCB 3020C; Coreq: BCH 4313, MCB 4303
Methods for mutagenesis, gene transfer, DNA isolation, genetic mapping, plasmid isolation, restriction enzyme use, phage isolation and preparation.

MCB 4403 Prokaryotic Cell Structure and Function. F.
Credits: 3; Prereq: CHM 3211; MCB 3020C.
An analysis of the cell structure and physiology of bacterial cells. Extensive discussions of cell division and cell growth is provided, along with descriptions of important bacterial cell structures (e.g., cell walls, membranes, flagella, etc.).

MCB 4503C General Virology. S.
Credits: 3; Prereq: MCB 3020C, BCH 4313.
Nature of viruses and mechanisms of infection and replication. Includes bacterial, animal and plant viruses.

MCB 4905 Undergraduate Research. F, S, SS.
Credits: 1 to 4; Prereq: Permission of undergraduate coordinator.
Individual laboratory research under the close guidance of a selected faculty member. Enrollment limited to undergraduate majors in Microbiology. Required of, but not limited to candidates for Honors and High Honors. May be repeated up to a maximum of 10 credits. Not acceptable toward 24 credits required for a degree.

GRADUATE COURSES

MCB 5458 Energy Transformations in Microorganisms. S.
Credits: 3; Prereq: CHM 3120, BCH 4313.

MCB 6127 The Literature of Microbiology.
Credits: 2

MCB 6315 Recombinant DNA Techniques. S.
Credits: 2; Prereq: BCH 6415 and/or BMS 6352 and consent of instructor.

MCB 6316 Plasmids, Transposons, and Recombinant DNA Technology. S.
Credits: 2; Prereq: BCH 6415 and/or BMS 6352 and consent of instructor.

MCB 6401 Molecular Biology of Cell Membranes. F.
Credits: 2; Prereq: BCH 4203, BCH 4313, MCB 3020C or equivalents and consent of instructor.

MCB 6406 Bacterial Cell Surfaces. F.
Credits: 2; Prereq: Advanced undergraduate courses in microbiology and biochemistry and consent of instructor.

MCB 6415 Comparative Biochemistry and Physiology of Anerobic Bacteria.
Credits: 2; Prereq: Undergraduate biochemistry and microbiology, and consent of instructor.

MCB 6416 Nitrogen Fixation and Inorganic Nitrogen Metabolism. F.
Credits: 2; Prereq: Consent of instructor; Coreq: BCH 6206 and/or BCH 6415.

MCB 6435 Molecular Radiation Biology. S.
Credits: 2; Prereq: Undergraduate courses in biology, chemistry, and physics, and consent of instructor.

MCB 6455 Temporal Gene Expression in Cellular Development. F.
Credits: 2; Prereq: Undergraduate biochemistry and cell biology, and consent of instructor.

MCB 6456 Molecular Mechanisms in the Regulation of Transcription. S.
Credits: 2; Prereq: BCH 6415 or BMS 6352 and consent of instructor.

MCB 6485 Advanced Techniques in Microbiology and Cell Science. F.
Credits: 2-4; Prereq: Consent of instructor.

MCB 6905 Experimental Microbiology.
Credits: 1 to 8.

MCB 6910 Supervised Research.
Credits: 1 to 5

MCB 6930 Seminar.
Credits: 1

MCB 6937 Special Topics in Microbiology.
Credits: 1 to 4

MCB 6940 Supervised Teaching.
Credits: 1 to 5.

MCB 6971 Master's Research.
Credits: 1 to 15

MCB 7914 Research Conference.
Credits: 1

MCB 7922 Journal Colloquy.
Credits: 1

MCB 7980 Doctoral Research.
Credits: 1 to 15

Process Biology

PCB 3136 Eukaryotic Cell Structure and Function. F.
Credits: 3; Prereq: BSC 2010C, BSC 2011C; Coreq: CHM 3210.
Lectures and discussions in the field of cell biology. Emphasis on the interrelation of structure and function, the regulation of metabolism and the specialized activities of plant and animal cells. Required of all Majors.

PCB 4193L Instrumentation and Techniques in Microbiology. F.
Credits: 2; Coreq: PCB 3136, MCB 3020C.
Introduction of basic techniques and instrumentation applicable to experimental work in microbiology, including light and electron microscopy; cell counting techniques; ultraviolet and visible spectrophotometry; fluorimetry; gel electrophoresis; centrifugation; chromatography.

PCB 4206 Biology of Differentiated Cells. S.
Credits: 2; Prereq: PCB 3136, CHM 3211.
Lectures on the physiology of cell specialization. Emphasis on comparative ultrastructure and function of organelles of differentiated cell types.

PCB 4253 Developmental Biology. S.
Credits: 4; Prereq: BSC 2010C, 2011C, PCB 3136.
Lectures on cellular aspects of development, including embryonic development, regeneration and cell culture systems.

PCB 5105 Cell Biology of Protozoa. F.
Credits: 3; Prereq: APB 4544 or equivalent.

GRADUATE COURSES

PCB 5115C Cytology. F.
Credits: 4; Prereq: BSC 2010C, BSC 2011C.

PCB 5136L Techniques in Microbial and Cell Biology. S.
Credits: 3; Prereq: MCB 3020C and PCB 3136.

PCB 5235 Immunology. S.
Credits: 3; Prereq: MCB 3020C.

PCB 5235L Experiments in Immunology. S.
Credits: 1; Prereq: MCB 3020C; Coreq: PCB 5235.

PCB 5132 Cell Biology of Protozoa. F.
Credits: 3; Prereq: APB 4544.

PCB 6176 Electron Microscopy of Biological Material. S, SS.
Credits: 2

PCB 6176L Laboratory in Electron Microscopy. S, SS.
Credits: 2

PCB 6216C Cytochemistry. F.
Credits: 3

Botany
GRADUATE COURSES

BOT 6256C Plant Cytology. F.
Credits: 3; Prereq: PCB 5115C.

MILITARY SCIENCE — AIR FORCE AEROSPACE STUDIES PROGRAM

INSTRUCTIONAL STAFF 1981-82

Littman, M., Col.; Cole, C.W., Maj.; Caldwell, W.F., Maj.; Venner, M.E., Capt.; Vnenchak, Capt.

In addition to the requirements listed below, each semester each student must participate in 16 hours of leadership laboratory which requires out-of-lab preparation and performance.

a. Freshmen and Sophomore students enroll in the basic General Military Course laboratory and receive instruction on the environment of an Air Force Base, career opportunities and jobs of a commissioned officer, and an introduction to military customs and courtesies. Students rotate through various enlisted positions in a typical base level organization and practice performing applicable jobs. Tasks involve supervising, conducting, critiquing, and performing drill and ceremonies and customs and courtesies. In addition, they organize and conduct community and university service projects to provide experience in civilian-military-civil action programs.

b. Junior and Senior students enroll in the Advanced Professional Officer Laboratory which consists of officer like activities that enable the student to develop, apply, and perfect management abilities. A traditional command and staff organization of the Cadet Corps simulates the typical base level organization structure and related officer responsibilities. Tasks involve planning, organizing, and supervising of financial, logistics, procurement, personnel, administrative, and public affairs activities. Students also run the Cadet Corps; supervise its operation; and conduct and critique drill and ceremonies, customs and courtesies, and all freshmen and sophomore laboratory activities. Students rotate through different line and staff officer functions each semester to insure the practical understanding and application of different leadership and management principles and skills. Additionally, they plan, organize and conduct community and university service projects to provide experience in civilian-military-civil action programs.

AFR 1101 USAF Strategic and Defensive Forces. F.
Credits: 2
Introduction to the history, mission, organization and doctrine of the United States Air Force. A study of U.S. Strategic Offensive forces; the effects and employment of nuclear weapons, the Strategic Air Command and the Navy's Fleet Ballistic Missile System. The concepts of aerospace defense and the mission and functions of NORAD, CONAD, and ADC. A study of the various systems and functions associated with defense against manned bombers and missiles. This course includes both lecture and the basic General Military Course Laboratory, both of which require outside preparation and/or practice.

AFR 1120 USAF General Purpose and Support Forces. S.
Credits: 2
A brief review of Army, Navy and Marine general purpose forces. An introduction to counterinsurgency and special operations. Tactical Air Power. A review of the Major Air Commands providing aerospace support functions, airlift, research and development, logistics and education and training. This course includes both lecture and the basic General Military Course Laboratory, both of which require outside preparation and/or practice.

AFR 2130 The Development of Airpower — The Early Aspects to World War II. F.
Credits: 2
The development of manned flight from the 18th century balloonist through the achievement and use of mature airpower capabilities in World War II. Discussion of the Nature of War, evolution of air tactics and strategy, World War I, the interwar years, and major air campaigns of World War II. This course includes both lecture and the basic General Military Course Laboratory, both of which require outside preparation and/or practice.

AFR 2140 The Development of Aerospace Power — Birth of the U.S. Air Force to Present. S.
Credits: 2
Discussion of the independence of the Air Force in 1947, the Berlin Airlift, development and technological advances in aircraft in the fifites, concept of air superiority, uses of airpower in the Cuban missile crisis. Southeast Asia, North Vietnam, and the Middle East. Concepts, doctrine and the employment of aerospace power in the nuclear age. This course includes both lecture and the basic General Military Course Laboratory, both of which require outside preparation and/or practice.

AFR 3220 Air Force Management. F.
Credits: 4
Introduction to the Professional Officer Course. Heavy emphasis is placed on development of basic communicative skills needed by modern managers. Overview of the fundamentals of management such as motivation, individual behavior, human groups and organization structure. In addition, the study of power and politics, strategy and tactics, personal values versus organizational values, the approaches to leadership provide a basis for development of the Air Force junior officer's managerial skills. This course includes both lecture and the advanced Professional Officer Laboratory. The laboratory requires extensive out-of-lab planning, preparation and practice.

AFR 3231 Air Force Junior Officer Leadership. S.
Credits: 4
Introduction to leader behavior and the variables affecting leadership. A continuing development of communicative skills and the introduction to managerial processes such as individual and group decision-making, analytical aids to decision-making, setting objectives, formulating plans and policies, staffing, coordinating, directing, and controlling. Exploration of Air Force personnel management. This course includes both lecture and the advanced Professional Officer Laboratory. The laboratory requires extensive out-of-lab planning, preparation and practice.

AFR 4201 The Military Profession and Defense Policy. F.
Credits: 4
A study of military professionalism with emphasis on professional development and civil military relations. Included is an analysis of the international and domestic restraints which are involved in the formulation of defense policy. This course includes both lecture and the advanced Professional Officer Laboratory. The laboratory requires extensive out-of-lab planning, preparation and practice.

AFR 4211 The Formulation of U.S. Defense Strategy and Military Justice. S.
Credits: 4
A study of U.S. defense strategy to include coverage of contemporary strategy, modern strategy and evolving strategy in the nuclear age. Also included is an overview of the bureaucratic inputs; The DOD, Congress, and the President as organizational actors. The last portion of the course involves a brief introduction to military law. This course includes both lecture and the advanced Professional Officer Laboratory. The laboratory requires extensive out-of-lab planning, preparation and practice.

MILITARY SCIENCE — ARMY ROTC

INSTRUCTIONAL STAFF 1981-82

Walsh, R.E., Ltc., PMS; Workman, D.K., Maj., APMS; Houchens, H.W., Cpt., APMS; Kerrins, R.D., Jr., Cpt., APMS; Patton, D.L., Cpt., APMS; Stout, T.E. Jr., Cpt., APMS; Streb, F.J., Cpt., APMS.

There are no prerequisites for any courses. All 3000 and 4000 level courses are solely for advanced students. Acceptance to these requires approval of the Professor of Military Science.

Students in the 1000 and 2000 level courses may take either classwork (1 credit hour) or Leadership Laboratory (1 credit hour) or both (2 credit hours). Laboratory instruction is progressive beginning with basic drill and advancing to integrated application of leadership techniques and use of military equipment.

Military Science

MIS 1000 Introduction to the Army as a Profession. S.
Credits: 1
Introduction to Military Science and the organizational approach to leadership. Military topics to include first aid, communication and career opportunities.

MIS 1020 Organization of the Army and ROTC. F.
Credits: 1
Introduction, purpose, and organization of the Army and ROTC. Introduction to military courtesy, marksmanship, and the role of an Army officer.

MIS 1490 Freshman Leadership Laboratory. F.
Credits: 1
Laboratory consists of a two-hour block of instruction which directly supports freshman classroom instruction. Students may take classroom (MIS 1020) or laboratory or both.

MIS 1492 Freshman Leadership Laboratory. S.
Credits: 1
Laboratory consists of a two-hour block in instruction which directly supports freshman classroom instruction. Students may take classroom (MIS 1000) or laboratory or both.

MIS 1654 Intensified Course: Basic Skills, Tactics, Field Training. SS.
Credits: 4
A detailed concept of the U.S. Army's mission and roles played by newly commissioned officers in accomplishing same. Primarily leadership training incorporating military tactics and techniques, map reading, communications, weaponry, etc. Course culminates in a 48 hour field training exercise. Successful course completion constitutes credit for freshman/sophomore AROTC.

MIS 2493 Sophomore Leadership Laboratory. F.
Credits: 1
Laboratory consists of a two-hour block of instruction which directly supports sophomore classroom instruction. Students may take classroom (MIS 2610) or laboratory or both.

MIS 2495 Sophomore Leadership Laboratory. S.
Credits: 1
Laboratory consists of a two-hour block of instruction which directly supports sophomore classroom instruction. Students may take classroom (MIS 2601) or laboratory or both.

MIS 2601 Map Reading and Land Navigation. S.
Credits: 1
Study and application of the principles of map reading, military and topographic symbols, terrain appreciation and evaluation, map orientation, intersection and resection, use of the lensatic compass, and an introduction to land navigation.

MIS 2610 Military Training Management and Instructional Techniques. F.
Credits: 1
Develops an understanding of the fundamental concepts involved with methods of instruction, training management, and curriculum development in the military. Actual student preparation and presentation of instruction will be an integral part of the course.

MIS 3300 Small Unit Operations. F.
Credits: 3
Provides training required by junior officer to direct and coordinate individuals and small units in the execution of offensive and defensive tactical missions. Also provides exposure to military weapons and communications systems found at this level. Student must attend 2 hour leadership laboratory weekly.

MIS 3404 Leadership Fundamentals — Tactics and Camp Preparation. S.
Credits: 3
Improves cadet proficiency in those military subjects necessary to meet minimum standards of technical competence and self-confidence required of a junior officer in the U.S. Army. Prepares cadets for participation at Advanced Camp. Major emphasis during course is placed on physical training and field training exercises. Student must attend 2 hour leadership lab weekly and participate in training sessions given at times other than normal class sessions.

MIS 4002 The Army as a Profession. F.
Credits: 3
An introduction to the profession of arms, its characteristics, roles, and resposibilities. Provides a basic understanding of the professional soldier's responsibilities to the Army and the nation. Attempts to improve ethical decision making skills through an examination of the need for ethical conduct, greater awareness and sensitivity to ethical issues, and the opportunity to apply these abilities in real world case study situations. Includes instruction in military justice, international law, and a research project in military history.

MIS 4106 American Military History.
Credits: 3
Credit for MIS 4106 will be awarded upon the completion of AMH 4547. Course description is listed under the History Department. This is a military science elective.

MIS 4421 Seminar in Military Leadership and Resource Management. S.
Credits: 3
An in-depth analysis of the role a junior officer plays in leading soldiers and managing resources. Compares and contrasts military principles with civilian management and supervision techniques. Includes a research project in the field of national security.

MILITARY SCIENCE — NAVY ROTC

INSTRUCTIONAL STAFF 1981-82

Cooper, W.H., Col., Chairman; Wheeler, S.E., CDR; Robnick, S.A., Maj.; Enterline, J., LCDR; Miller, C.D., Lt.; Ciarlante, V., Lt.; Ebel, K., Lt.

NSC 1101 Naval Science Laboratory. F, S.
No credits: (Two hours per week.)
Drill, Basic commands, courtesies and honors; orientation and information period.

NSC 1110 Principles of Naval Organization. F.
Credits: 2
An introduction to the structure and principles of naval organization. Organizational concepts are examined including lines of command and control of the various major, intermediate, and basic components of the Navy and Marine Corps. Included is basic introduction to the U.S. Naval Service and the concept of seapower, including customs and traditions.

NSC 1121 Naval Ships Systems I (Engineering). S.
Credits: 3
The objectives of the course are to learn basic power systems used in naval propulsion systems, a basic understanding of the thermodynamic process, a working knowledge of major auxiliary ship systems, basic consideration for ship design and stability. Basic electrical theory and damage control are included.

NSC 2102 Naval Science Laboratory. F, S.
No Credits: (Two hours per week).
Drill, orientation, and information period.

NSC 2122 Naval Ships Systems II (Weapons). F.
Credits: 3
This course provides an introduction to the theory, characteristics, and principles of operation of

naval weapons system. It includes coverage of types of weapons and fire control systems, capabilities and limitations, theory of target acquisition, identification and tracking, trajectory principles, and basics of naval ordnance.

NSC 2140 Seapower and Maritime Affairs. S.
Credits: 2
A course designed to develop a working knowledge and interest in seapower and maritime affairs. Discussions are oriented toward the general concept of seapower, the role of various components, the economics and realities, the power and influence of seapower, the implementation of seapower as an instrument of national policy, and a comparative study of U.S. and Soviet Naval strategies.

NSC 3103 Naval Science Laboratory. F, S.
No Credits: (Two hours per week).
Practical exercises dealing with the specifics of military organizations and leadership.

NSC 3214C Navigation and Naval Operations I. F.
Credits: 3 (2 lecture hours, 2 lab hours).
A comprehensive study of the theory, principles, and procedures of ship navigation and movements. Ship handling, Nautical Rules of the Road, piloting, dead reckoning, tides and tidal currents, and weather are covered.

NSC 3215C Navigation and Naval Operations II. S.
Credits: 3 (2 lecture hours, 2 lab hours). Prereq: NSC 3214C.
A continuation of NSC 3214C. Topics include principles of celestial and electronic navigation, spherical triangulation, practical work involving sight reduction, sextants, publications, communications, sonar-radar search and screening theory. Tactical formations, dispositions, relative motion, maneuvering board and tactical plots are analyzed for force effectiveness and unity.

NSC 3221 Evolution of Warfare. F.
Credits: 3
The purpose of this course is to explore the form of warfare employed by great people in history in order to formulate the sense of historical flow or continuity in the evolution of warfare, to develop a basic sense of strategy, to demonstrate alternative military actions and to explore the impact of historical precedent on military thought and actions as practiced by the great leaders and military organizations.

NSC 4104 Naval Science Laboratory. F, S.
No Credits: (Two hours per week.)
Practical exercises dealing with the specifics of Naval organizations and leadership.

NSC 4224 Amphibious Warfare. F.
Credits: 3
A historical survey of the projection of seapower ashore. The course seeks to define the concept, explore its doctrinal origins, and trace its evolution as an element of naval policy during the twentieth century. The case study method is used alongside the theme of general historical continuity to develop an understanding of the relatively new and still maturing concept of amphibious warfare.

NSC 4230 Leadership and Management. F.
Credits: 2
An introduction to the principles of naval administration, stressing the experimental approach to learning the principles of leadership and management. The student develops skills in the areas of communication, counseling, control, direction, leadership and management functions and responsibilities through active guided participation in Navy based case studies, experiential exercises and situational problems. Management theory, professional responsibility and the Navy Human Resource Management programs are emphasized.

NSC 4233 Junior Naval Officer. S.
Credits: 2
A course designed to equip the NROTC student with the skills and abilities required for competence as a commissioned officer. Naval personnel and material management, the administration of division discipline and human resource management are the major areas of focus for this course. This final capstone course in the NROTC curriculum builds upon and focuses the managerial and professional competencies developed during prior summer cruise training and naval science courses.

MUSIC
College of Fine Arts

INSTRUCTIONAL STAFF 1981-82

Udell, Budd, A., Chairman; Adams, E.A.; Battan, S.; Bodine, W.R.; Bowles, R.W.; Brask, W.J.G.; Dorman, P.E.; Fouse, S.B.; Graham, E.P.; Gregory, M.D.; Grigsby, J.R.; Hale, J.P.; Henderson, R.M.; Jaeger, I.C.; Kitts, J.S.; Kushner, D.Z.; Langford, R.G.; Liley, T.; Madsen M.; Ostoich, M.S.; Penland, A.C.; Poole, R.; Small, T.S.; Sterrett, D.E.; Troupin, E.C.; White, C.B.; White, J.D.; Wilmot, D.L.; Zumbro, J.M.

Degree programs in music include: the Bachelor of Music and Bachelor of Arts, in which degrees a student may major in music theory, composition, history and literature, church music, or applied music in piano, voice, organ, harpsichord, or in any orchestral instrument; the Bachelor of Music Education degree; the Master of Fine Arts; and the Master of Education degree with a major in music education. A prospective music major should consult the Department of Music adviser at his earliest opportunity, obtain detailed outlines of curricula and requirements, and make application for admission to music major status.

Music Performance Scholarships are available. Courses offered in the Department of Music are divided into six areas: Theory; Composition; History and Literature; Applied Music; Music Education; Ensemble.

Enrollment is open to all qualified University students — those preparing for a professional goal in music and those seeking a musical literacy for its cultural value.

GRADUATE COURSES

The Master of Fine Arts degree in music (emphases on music history, literature and criticism, music theory and composition, applied music, sacred music, and conducting) is offered in the College of Fine Arts.

The Department of Music cooperates with the College of Education in offering courses leading to the following degrees: Master of Education in music education (non-thesis degree); Master of Arts in Education in music education (thesis degree); Specialist in Education; Doctor of Education in college music teaching (emphasis in music education); Doctor of Philosophy in college music teaching (emphases in music history, literature and criticism, music theory and composition, performance practices, and music education).

Rotating Topics courses at the graduate level include the following: MUH 6930, 7930. Topics in Musicology (History of American Music, Seminar in Romantic Music, Seminar in Renaissance Music, History of Opera, etc.); MUL 6931, 7931. Topics in Music Literature (Symphonic Literature, Piano Literature, Romantic Music Literature, Contemporary Music Literature, etc.); MUT 6930, 7930. Topics in Music Theory (Analytic Techniques, Contemporary Compositional Techniques, History of Music Theory, etc.); and MUE 6932, 7932. Topics in Music Education (Philosophies of Music Education, Music Curriculum Development, Supervision and Administration of Music Education, Instrumental Music Curriculum, Elementary Music Curriculum, Secondary General Music and Related Arts Curricula, etc.)

MUSIC PERFORMANCE

GENERAL POLICY

Music Performance courses, which are studio and class lessons in voice and musical instruments, are offered in voice, piano, organ, violin, viola, violoncello, string bass, flute, oboe, clarinet, bassoon, French horn, trumpet, trombone, euphonium, tuba, percussion, saxophone, harp, harpsichord, recorder, and historical instruments. These courses are primarily for music majors. They are open to non-majors by special audition only.

The student registering for the first time for courses in Music Performance reports to the Chairman of the Department of Music, who designates a faculty member to audition and/or consult with the student and assign the student to the proper applied music course number.

The student should obtain from the Department of Music the publication, "Music Performance Study at the University of Florida."

S-U Grades option and auditing of courses in Music Performance are not permitted.

Freshman Courses (1000 level) emphasize basic techniques. A student normally takes one of these courses for three semesters.

Sophomore Courses (2000 level) emphasize repertory and mastery of the basic techniques of the performing medium. A student normally takes one of these courses for three semesters.

Junior Courses (3000 level) and Senior Courses (4000 level) are for advanced study. A student normally takes one of these courses for three semesters. Recitals must be presented at the University of Florida.

The PERFORMER'S CERTIFICATE will be awarded at the discretion of the faculty to students who complete the graduation requirements of the Senior Courses.

Music Performance: Brasses

MVB 1411, 2421, 3431, 4441 Trumpet. F, S, SS.
Credits: 1 to 3 each semester.

MVB 1412, 2422, 3432, 4442 French Horn. F, S, SS.
Credits: 1 to 3 each semester.

MVB 1413, 2423, 3433, 4443 Trombone. F, S, SS.
Credits: 1 to 3 each semester.

MVB 1414, 2424, 3434, 4444 Euphonium. F, S, SS.
Credits: 1 to 3 each semester.

MVB 1415, 2425, 3435, 4445 Tuba. F, S, SS.
Credits: 1 to 3 each semester.

Music Performance: Keyboard

MVK 1411, 2421, 3431, 4441 Piano. F, S, SS.
Credits: 1 to 3 each semester.

MVK 1412, 2422, 3432, 4442 Harpsichord. F, S, SS.
Credits: 1 to 3 each semester.

MVK 1413, 2423, 3433, 4443 Organ. F, S, SS.
Credits: 1 to 3 each semester.

MVK 1415, 2425, 3435, 4445 Carillon. F, S, SS.
Credits: 1 to 3 each semester.

MVK 1011 Preparatory Piano Skills. S, SS.
Credits: 1 to 3
Three hours of class meetings (1 lecture and 2 supervised drill sessions). Open only to music majors. This course is designed to bring deficient students up to expected college-level study. Credit is not applicable toward the degree. This course may be exempted by examination.

MVK 2111 Piano Skills 1, 2. F, S, SS.
Credits: 1 to 3
Three hours of class meetings (1 lecture and 2 supervised drill sessions). Open only to music ma-

jors. This course is required of all music majors until piano proficiency examination has been passed. May be repeated for credit.

Music Performance: Other Instruments

MVO 1413, 2423, 3433, 4443 Historical Instruments. F, S, SS.
Credits: 1 to 3 each semester.

MVO 1414, 2424, 3434, 4444 Recorder. F, S, SS.
Credits: 1 to 3 each semester.

MVO 6250, 7260 Secondary Applied Music. F, S, SS.
Credits: 1 to 3 each semester.

MVO 6460, 7460 Applied Music. F, S, SS.
Credits: 1 to 3 each semester.

Music Performance: Percussion

MVP 1411, 2421, 3431, 4441 Percussion. F, S, SS.
Credits: 1 to 3 each semester.

Music Performance: Strings

MVS 1411, 2421, 3431, 4441 Violin. F, S, SS.
Credits: 1 to 3 each semester.

MVS 1412, 2422, 3432, 4442 Viola. F, S, SS.
Credits: 1 to 3 each semester.

MVS 1413, 2423, 3433, 4443 Cello. F, S, SS.
Credits: 1 to 3 each semester.

MVS 1414, 2424, 3434, 4444 String Bass. F, S, SS.
Credits: 1 to 3 each semester.

MVS 1415, 2425, 3435, 4445 Harp. F, S, SS.
Credits: 1 to 3 each semester.

MVS 4145 Harp Skills. F, S.
Credits: 1 to 3; Prereq: Permission of instructor.
The harp in orchestra and chamber music with emphasis on writing for the instrument. For prospective conductors, arrangers, composers.

Music Performance: Voice

MVV 1411, 2421, 3431, 4441 Voice. F, S, SS.
Credits: 1 to 3 each semester.

Music Performance: Woodwinds

MVW 1411, 2421, 3431, 4441 Flute. F, S, SS.
Credits: 1 to 3 each semester.

MVW 1412, 2422, 3232, 4442 Oboe. F, S, SS.
Credits: 1 to 3 each semester.

MVW 1413, 2423, 3433, 4443 Clarinet. F, S, SS.
Credits: 1 to 3 each semester.

MVW 1414, 2424, 3434, 4444 Bassoon. F, S, SS.
Credits: 1 to 3 each semester.

MVW 1415, 2425, 3435, 4445 Saxophone. F, S, SS.
Credits: 1 to 3 each semester.

Church Music

MUR 3401 Organ Design and Literature. F.
Credits: 3; Primarily for organists.
Church architectural design and acoustics; liturgical forms; liturgical year; service music; service playing.

MUR 4801 Music in Worship. S.
Credits: 3; Prereq: MUH 3211, 3212, 3213 or equivalent.
Primarily for church music directors. Hymnology; choral literature for specific contexts; church music administration.

Composition

MUC 2101, 2102 Composition Skills 1, 2. F, S.
Credits: 1 each course; Prereq: One year of basic music theory or permission of instructor.
Required for all majors in theory/composition. Workshop in composition techniques, exploring use of styles and devices of the 20th century.

MUC 3201, 3202 Composition 1, 2. F, S.
Credits: 3 each course; Prereq: Composition Skills or permission of instructor.
Composition in simple and extended forms, supplemented by analysis of selected compositions from the standard repertoire.

MUC 4204, 4205 Composition 1, 2. F, S.
Credits: 3 each course; Prereq: MUC 3202 or equivalent, or permission of instructor.
An extension of the courses MUC 3201, 3202.

MUC 4301 Introduction to Electronic Music. F.
Credits: 3; Prereq: Permission of instructor.
Use of the synthesizer and tape recorder in composition.

GRADUATE COURSE

MUC 6401 Composition of Electronic Music. S.
Credits: 3

Conducting

MUG 4101 Conducting S.
Credits: 2 each course; Prereq: Nine credits in one area of music performance or permission of the instructor.
Basic techniques of choral and instrumental conducting.

MUG 4102 Instrumental Conducting and Materials. F.
Credits: 2; Prereq: Nine credits in one area of Music Performance, MUG 4101, or permission of the Instructor.
Basic techniques of instrumental conducting, score analysis, interpretation and use of basic instrumental materials.

MUG 4201 Choral Conducting and Materials. F.
Credits: 2; Prereq: Nine credits in one area of Music Performance, MUG 4101, or permission from the Instructor.
Basic techniques of choral conducting, score analysis, interpretation and use of basic choral materials.

Graduate Conducting is taken under the graduate course number for applied music, MVO 6460.

Music Education

MUE 2402 Music Skills. F, S, SS.
Credits: 3
Fundamentals of music needed by the classroom teacher for teaching music in the elementary school. Not open to Freshman. Students with sufficient background in music may exempt the course by examination.

MUE 2403 Instruments for General Music, K-12. F, S.
Credits: 2; Open only to music education majors, or permission of instructor.
A skills course recorder, guitar, and Orff instruments. Maximum: 6 credits.

MUE 2431 Voice Skills. F, S.
Credits: 1; Open only to music majors.
Required of all music education majors. May be repeated for credit with departmental approval. Maximum: 6 credits.

MUE 2440 String Skills. F, S.
Credits: 1; Open only to music majors.
Required of all music education majors. May be repeated for credit with departmental approval. Maximum: 6 credits.

MUE 2450 Woodwind Skills. F, S.
Credits: 1; Open only to music majors.
Required of all music education majors. May be repeated for credit with departmental approval. Maximum: 6 credits.

MUE 2460 Brass Skills. F, S.
Credits: 1; Open only to music majors.
Required of all music education majors. May be repeated for credit with departmental approval. Maximum: 6 credits.

MUE 2470 Percussion Skills. F, S.
Credits: 1; Open only to music majors.
Required of all music education majors. May be repeated for credit with departmental approval. Maximum: 6 credits.

MUE 3030 Music Ed. Secondary 7-12. S.
Credits: 4; Prereq: MUE 3113 or equivalent.
Fundamental principles and procedures of music education in the secondary school.

MUE 3093 Music in the Field of Recreation. F, S, SS.
Credits: 3
The various uses of music in the field of recreation.

MUE 3113 Music in Elem. Schools. F.
Credits: 4
Fundamental principles and procedures of music education in elementary school.

MUE 3320 Music Education in the Middle School. SS.
Credits: 4
Fundamental principles of music education in the middle school.

MUE 3401 Music for the Elementary Child. F, S, SS.
Credits: 3††; Prereq: MUE 2402 or equivalent.
Helps meet state certification requirements for elementary classroom teachers. Function of elementary school music in aiding the developmental growth of children.

MUE 4152 Administration of Music Education. F, S.
Credits: 2; Prereq: MUE 3030.
Principles and practices of developing and administering K-12 Public School Music Program.

MUE 4480 Marching Band Techniques. S, SS.
Credits: 3
Examination, evaluation, and practical application of marching band techniques for the high school and college band director.

MUE 4642 Trends in Teaching Music. SS.
Credits: 1 to 5; Prereq: permission of instructor.
Special rotating topics. May be repeated for credit.

GRADUATE COURSES

MUE 6080 Foundations of Music Education.
Credits: 3

MUE 6143 Music in the Schools. F, S, SS.
Credits: 1 to 6

MUE 6146 Band Music in the Public Schools.
Credits: 3

MUE 6147 Orchestra Music in the Public Schools.
Credits: 3

MUE 6396 Methods of Research in Music Education. F, SS.
Credits: 3

MUE 6406 Music in the Elementary School.
Credits: 3

MUE 6416 Vocal Music in the Secondary School.
Credits: 3

MUE 6932, 7932 Topics in Music Education. F, S, SS.
Credits: 3 each

MUE 7938 Music Education Seminar. F.
Credits: 3

Music: History/Musicology

MUH 3211 Survey of Music History 1. F.
Credits: 3, Prereq: MUL 2111 or permission of instructor.
Antiquity, Middle Ages, Renaissance and Baroque periods.

MUH 3212 Survey of Music History 2. S.
Credits: 3; Prereq: MUL 2111 or permission of instructor.
Classic, Romantic and Contemporary periods.

MUH 3541 Latin-American Music. SS.
Credits: 3; Prereq: MUL 2011 or equivalent.
Representative works of the leading composers of Latin America, including Chavez, Villa-Lobos, Guarnieri, Sas, Williams, UribHolguin Calvalho, Santa Cruz, Delgadillo, and Paz.

MUH 4116 History of Jazz. S.
Credits: 3
From African, Latin-American, and Black-American sources, through contemporary development.

MUH 4501 Non-Western Musics. SS.
Credits: 3
Introduction to musics of non-western cultures in comparison with music of Western European Civilizations; the nature of music and the realm of ethnomusicology.

MUH 4561 Music of Black Americans. SS.
Credits: 3
African heritage; Colonial Period to the present, musical literature, performers, composers. Open as an elective to all students.

GRADUATE COURSES

MUH 6050 Graduate Music History Review. S.
Credits: 3

MUH 6930, 7930 Topics in Musicology. F, SS.
Credits: 3 each

Music Literature

MUL 2011 Introduction to Music Listening. F, S, SS.
Credits: 3
A fundamental course open to all students (non-music majors) as an elective. Concert attendance, listening to records, reading, and discussion.

MUL 2111 Musical Styles. SS.
Credits: 3
Styles, forms, underlying ideas, rhythmic, melodic, and harmonic characteristics of each musical era related to the prevailing general culture. For music majors only, or with permission of instructor.

MUL 2112 Masterworks of Music. F.
Credits: 3
Works of master composers in the various stylistic periods, 1600 to the present; Bach and Handel; Mozart and Haydn; Beethoven; the nineteenth and early twentieth century. Open as an elective to all students (non-music majors); may follow MUL 2011 or may be taken separately.

MUL 2113 Musical Structures. S.
Credits: 3
Symphonies, symphonic poems, opera, oratorio and solo and chamber works. Open as an elective to all students (non-music majors); may follow MUL 2011 and MUL 2111 or may be taken separately.

MUL 3341 Baroque Literature. F.
Credits: 3; Prereq: MUL 2011 or equivalent.
Compositions of Monteverdi, Gabrieli, Schutz, Buxtehude, Bach, Handel, and others.

MUL 3351 Classic Literature. F.
Credits: 3; Prereq: MUL 2011 or equivalent.
Music of the major composers of the Classic period, with special emphasis on Haydn, Mozart and Beethoven.

MUL 3362 Romantic Vocal Literature. SS.
Credits: 3; Prereq: MUL 2011 or equivalent.
Lieder, opera, music drama, oratorio, and vocal chamber music and Beethoven to Richard Strauss; analysis of form and style.

MUL 4334 Renaissance Literature. S.
Credits: 3; Prereq: MUL 2011 or equivalent.
Instrumental music, mass, madrigal, motet, and vocal polyphony from 1400 to 1600.

MUL 4361 Romantic Instrumental Literature. S.
Credits: 3; Prereq: MUL 2011 or equivalent.
Beethoven to Richard Strauss. Symphony, tone poem, chamber music, and piano works.

MUL 4371 Contemporary Literature. S.
Credits: 3; Prereq: MUL 2011 or equivalent.
Twentieth-century music literature, including works of DeBussy, Ravel, Stravinsky, Schoenberg, Webern, Berg, Hindemith, Bartok, Copland, Sessions, Boulez, and Stockhausen.

MUL 4811 The Music of J.S. Bach. SS.
Credits: 3
This course will survey the works of Bach with special emphasis on the historical sources of his choral and instrumental styles and detailed study of a selection of his chief works.

MUL 4813 The Music of W.A. Mozart. SS.
Credits: 3
The music, life and times of Mozart.

GRADUATE COURSES

MUL 6931, 7931 Topics in Music Literature. S, SS.
Credits: 3 each

Ensembles

Ensemble Credit. Six ensemble credit hours may be applied toward most non-music Bachelor degrees. In each term music majors must register for, and participate in, ensembles appropriate to their skills as required by the various music curricula. Each music major should have both large and chamber ensemble experience in his undergraduate career, as recommended by the individual applied music instructor. For ensemble participation, graduate students register for MUN 6000 Graduate Ensemble.

MUN 1110 Marching Band. F.
Credits: 1; Prereq: Permission of conductor.
Performance of marching band literature.

MUN 1120 Concert Band. S.
Credits: 1
Performance of general and popular band literature.

MUN 1130 Symphonic Band. F, S, SS.
Credits: 1; Prereq: By audition.
Performance of traditional and contemporary band literature.

MUN 1210 University Orchestra. F, S, SS.
Credits: 1; Prereq: Permission of conductor.
Standard orchestra literature.

MUN 1310 University Choir. F, S, SS.
Credits: 1; Prereq: Permission of conductor.
An advanced choral group providing specialized study performance opportunities for vocally qualified students.

MUN 1320 Women's Chorale. F, S.
Credits: 1; Prereq: Previous choral or instrumental experience and permission of conductor.
Vocal training and public performances of standard male chorus repertoire.

MUN 1330 Men's Glee Club. F, S.
Credits: 1; Prereq: Previous choral or instrumental experience and permission of conductor.
Vocal training and public performance of standard male chorus repertoire.

MUN 1380 Choral Union. S.
Credits: 1; Prereq: Permission of conductor.
Performance of large choral works.

MUN 1460 Chamber Music Ensembles. F, S, SS.
Credits: 1; Prereq: Permission of director.

MUN 1640L Musical Theatre Ensemble F, S, SS.
Credits: 1; Prereq: permission of director. Examination and performance of standard repertoire for the musical theatre.

MUN 1710 Jazz Bands. F, S, SS.
Credits: 1; Prereq: Permission of director.
Standard and experimental jazz ensembles. A jazz laboratory.

MUN 1720 Vocal Jazz Troupe. F, S, SS.
Credits: 1; Membership by audition and permission of instructor.
Study of jazz, musical theatre, and dance.

MUN 3340 University Chamber Singers. F, S, SS.
Credits: 1; Membership by audition and permission of instructor.
Study and performance of early and contemporary vocal literature.

MUN 3490 Renaissance Ensemble. F, S, SS.
Credits: 1; Prereq: Permission of director.
Study and performance of Renaissance instrumental music on authentic replicas of Renaissance instruments.

GRADUATE COURSES

MUN 6000 Graduate Ensemble. F, S, SS.
Credits: 1

Opera Musical Theatre

MUO 3501 Opera Workshop. F, S, SS.
Credits: 1; Prereq: Permission of director.
Study and performance of works from opera and operetta.

Music Theory

MUT 1001 Introduction to Music Theory Rudiments. F.
Credits: 2; Prereq: Permission of Instructor.
The study of notation, scales, intervals, triads, aural skills, and key board skills.

MUT 1121, 1122 Theory of Music 1, 2. F, S.
Credits: 4 each course; Coreq: MUT 1241, 1242, MUE 2431, MVK 1011. Registration in music performance study; and admission to music major status.
Rhythms, intervals, motifs, phrases, melodies, chords and chord progressions, in the standard clefs through listening, playing, singing and writing. Chord study includes primary and secondary triads in root position and inversions, nonharmonic tones and diatonic seventh chords.

MUT 2116, 2117 Theory of Music 3, 4. F, S.
Credits: 3 each course; Coreq: MUT 2246, 2247, MVK 2111 1, 2.
Modulation, secondary dominants, diminished sevenths, neapolitan and augmented sixths, chords of the ninth, eleventh and thirteenth.

MUT 2246, 2247 Theory of Music Lab 3, 4. F, S.
Credits: 1 each course; Coreq: MUT 2116, 2117.
Sight-singing and dictation.

††Grading is on S-U basis only.

NUCLEAR ENGINEERING SCIENCES

MUT 3321, 3322 Instrumentation and Arranging 1, 2. F, S.
Credits: 3 each course; Prereq: MUT 2117 or equivalent.
Scoring for the instruments of the orchestra and band, singly and in various combinations.

MUT 3611 Form and Analysis 1. F.
Credits: 3; Prereq: MUT 2117.
Analysis of the form and harmony employed in standard musical compositions through the classic period.

MUT 3612 Form and Analysis 2. S.
Credits: 3; Prereq: MUT 2117.
Analysis of music of the nineteenth and twentieth centuries.

MUT 4411 Modal Counterpoint. F.
Credits: 3; Prereq: MUT 2117.
Free and strict counterpoint in the sixteenth century modal style through listening, reading, playing, singing, and writing.

MUT 4421 Tonal Counterpoint. S.
Credits: 3; Prereq: MUT 2117.
Counterpoint in the 18th-century style through listening, reading, playing, singing, and writing.

MUT 4601 Score Reading. F, S.
Credits: 2; Prereq: Completion of Piano Skills MVK 2111(2) or equivalent, or permission of instructor.
Score-reading at the keyboard. Exercises in realization of music in two or more staves and clefs, and involving instrumental transpositions.

MUT 4615 Analysis of Early Music. F.
Credits: 3; Prereq: MUT 3611, 3612 Form and Analysis or equivalent, or permission of instructor.
Analysis of music before 1600. Chant, Organum, Ars Nova, and Renaissance.

MUT 4626 Advanced Analytical Techniques. S.
Credits: 3; Prereq: MUT 3611, 3612 Form and Analysis or equivalent, or permission of instructor.
Musical analytic methods of Schenker, Hindemith, Hanson, La Rue, et al., with emphasis on music after 1900.

MUT 4641 Jazz Improvisation. F, S.
Credits: 2; Prereq: Permission of instructor.
May be repeated for credit.

GRADUATE COURSES

MUT 6051 Graduate Music Theory Review. F.
Credits: 3

MUT 6751 Pedagogy of Music Theory. F, S, SS.
Credits: 3

MUT 6930, 7931 Topics in Music Theory. F, S, SS.
Credits: 3 each

Music

MUS 4201 Language and Diction for Singers 1. F.
Credits: 1
1 hour of class instruction per week. Open to students studying voice. Required of all music education majors whose principal applied music is voice.

MUS 4905 Projects and Problems in Music. F, S, SS.
Credits: 3
Individual work in music and music education. May be repeated for credit with change of content.

††Grading is on S-U basis only.

GRADUATE COURSES

MUS 5665 Music Criticism. SS.
Credits: 3; Prereq: MUL 2011 or equivalent or permission of instructor.

MUS 6716 Methods of Musical Research and Bibliography. F.
Credits: 3

MUS 6905, 7905 Projects and Problems in Music. F, S, SS.
Credits: 3 each

MUS 6910 Supervised Research. F, S, SS.
Credits: 1 to 5††

MUS 6940 Supervised Teaching. F, S, SS.
Credits: 1 to 5††

MUS 6971 Masters Research. F, S, SS.
Credits: 1 to 15††

MUS 6973 Individual Project. F, S, SS.
Credits: 1 to 10††

NUCLEAR ENGINEERING SCIENCES
College of Engineering

INSTRUCTIONAL STAFF 1981-82

Jacobs, A.M., Chairman; Campbell, H.D.; Carroll, E.E., Jr.; Dalton, G.R.; Diaz, N.J.; Dugan, E.T.; Ellis, W.H.; Roessler, G.S.; Schneider, R.T.; Schoessow, G.J.; Vernetson, W.G.; Wethington, J.A., Jr.

Engineering: Nuclear

ENU 3002 Survey of Nuclear Technology in Modern Life. F, S.
Credits: 2; 2-1 hr. lec.; Prereq: Upper division standing or consent of instructor.
The impact of nuclear technology on our society; fundamentals of nuclear fission and fusion processes with applications; medical and biomedical applications of nuclear technology. Intended primarily for the non-engineering major.

ENU 3012 History of Nuclear Energy. F, SS.
Credits: 3; 3-1 hr. lec.; Prereq: Exposure to modern European and American history plus a year of natural science.
The evolution of nuclear weapons in World War II, change from military to civilian control, and maturation of nuclear power.

ENU 4101 Principles of Nuclear Reactors, F, SS.
Credits: 3; 3-1 hr. lec.; Prereq: Senior Standing.
Basic introduction to nuclear reactor theory including interaction of radiation with matter. Introduction to nuclear power plant technology including description of components, instrumentation, systems and operations for power generation. Course intended for engineering students not majoring in nuclear engineering.

ENU 4103 Introduction to Nuclear Engineering 1. F.
Credits: 3; 3-1 hr. lec.; Coreq: Phy 3123 and ENU 4605.
Introduction to nuclear reactor concepts, fuels and materials. Elementary study of neutron reactions, neutron diffusion and multiplication factors for simple nuclear reactors; static analysis of nuclear systems.

ENU 4104 Introduction to Nuclear Engineering 2. S.
Credits: 3; 3-1 hr. lec.
Continuation of ENU 4103. Elementary study of time dependent behavior of nuclear systems including feedback, transients, reactor control and power generation.

ENU 4134 Thermodynamics, Heat and Mass Transfer in Nuclear Systems. F.
Credits: 3; 3-1 hr. lec.; Prereq: EML 3100, EML 4142 and ENU 4104.
Thermodynamic aspects of nuclear power, reactor heat generation and removal, heat transfer and fluid flow in nuclear systems with emphasis on light water reactors.

ENU 4144 Nuclear Power Reactor Systems 1. F.
Credits: 3; 3-1 hr. lec.; Prereq: ENU 4104 and EML 3100; Coreq: ENU 4134.
Basis for light water reactor (LWR) design; the NRC design criteria for LWRs. Study of the major systems, components and performance characteristics of LWRs including fuels, primary and secondary coolant systems, emergency and auxiliary systems.

ENU 4145 Nuclear Reactor Safety and Risk Analysis. SS.
Credits: 3; 3-1 hr. lec.; Prereq: ENU 4134 and ENU 4144.
Advanced study of reactor safety systems including probabilistic risk assessment.

ENU 4149 Nuclear Power Reactor Systems 2. S, SS.
Credits: 3; 3-1 hr. lec.; Prereq: ENU 4144.
Advanced study of LWR balance-of-plant systems. Major systems, components and performance characteristics, including fuels for gas-cooled reactors, heavy water reactors and breeder reactors.

ENU 4185 Nuclear Reactor Fuel Management. SS.
Credits: 2; 2-1 hr. lec.; Prereq: ENU 4104.
Nuclear fuel management from enrichment through waste management and economics.

ENU 4192 Nuclear Reactor Power Plant Design 1. S.
Credits: 3; 3- 1 hr. lec.; Prereq: ENU 4134 and ENU 4144.
Introduction to design methodology with applications to the solution of a unified set of design problems for major components and systems of nuclear power plants.

ENU 4304 Applications of Nuclear Radiation and Energy. SS.
Credits: 2; 2-1 hr. lec.; Prereq: ENU 4605.
The use of radioisotopes and ionizing radiation in solving engineering and research problems.

ENU 4405 Nuclear Processing and Separations. S, SS.
Credits: 3; 3-1 hr. lec.; Prereq: ENU 4103.
Chemical processing of fertile and fissile materials and irradiated fuels, changes in composition and reactivity during fuel irradiation, nuclear reactors and the chemical plants associated with them, waste disposal.

ENU 4505L Nuclear Engineering Laboratory 1. S.
Credits: 2; 1-1 hr. lec.; and 1-4 hr. lab.; Prereq: ENU 4104 and ENU 4612.
A study of the experimental procedures used in reactor operation, personnel monitoring, radiation detection devices and the statistics of nuclear counting systems.

ENU 4605 Interaction of Radiation with Matter. F.
Credits: 3; 3-1 hr. lec.; Coreq: PHY 3123.
The processes by which radiation interacts with matter with application to nuclear reactors.

ENU 4612 Nuclear Instrumentation Systems. F.
Credits: 3; 3-1 hr. lec.; Prereq: ENU 4104, ENU 4605 and EEL 3111; Coreq: ENU 4612L.
Basic operational principles of radiation detection and nuclear instrumentation systems; counting circuitry and systems for radiation detection and measurement in radiation protection, radiological dosimetry, nuclear medical measurements, radionuclide surveillance and spectrometry and nuclear reactor safety and control.

ENU 4612L Nuclear Instrumentation Systems Lab. F.
Credits: 1; 1-3 hr. lab.; Coreq: ENU 4612.
Laboratory in nuclear radiation detection and instrumentation systems associated with ENU 4612.

ENU 4704 Advanced Concepts for Nuclear Energy. S.
Credits: 3; 3-1 hr. lec.; Prereq: ENU 4104, ENU 4144, and EML 3100.
A basic introduction to plasmas is given with emphasis on thermonuclear fusion. Other areas covered include lasers, MHD conversion, breeder reactors and other advanced fission reactors.

ENU 4905 Special Problems in Nuclear Engineering Sciences. F, S, SS.
Credits: 1 to 6; Prereq: Recommendation of Department Chairman.
Individually selected problems or projects in the student's major field of engineering study. May be repeated up to maximum of 8 credits.

ENU 4944 Practical Work In Nuclear Engineering. F, S, SS.
Credits: 1 to 5
Practical engineering work under industrial supervision as set forth in the college of engineering regulations.

ENU 4949 Coop Work Experience Sciences. F, S, SS.
Credits: 1††; 3 hr. lab.; Prereq: 4EG classification: one term of industrial employment, including extra work according to a preapproved outline.
Practical engineering work under industrial supervision, as set forth in the College of Engineering Regulations.

GRADUATE COURSES

ENU 5005 Fundamentals of Reactor Engineering.
Credits: 3

ENU 5146 Fundamentals of Reactor Safety: Operational Transients and Accident Analysis.
Credits: 3

ENU 5148 Quality Assurance in the Nuclear Industry.
Credits: 3

ENU 5176L Principles of Nuclear Reactor Operations.
Credits: 3

ENU 5186 Reactor Fuel Cycles.
Credits: 3

ENU 5195 Nuclear Reactor Power Plant Design II.
Credits: 3

ENU 5196 Nuclear Power Plant System Dynamics and Control.
Credits: 3

ENU 5414 Isotope Separation.
Credits: 3

ENU 5615 Nuclear Radiation Detection and Instrumentation.
Credits: 3

ENU 5615L Nuclear Radiation Detection and Instrumentation Laboratory.
Credits: 1

ENU 5625 Bionucleonics.
Credits: 2

ENU 5626 Radiation Biology.
Credits: 4

ENU 5629 Radiation Biology Laboratory.
Credits: 1

ENU 5658 Image Analysis with Medical Physics Applications.
Credits: 3

ENU 6106 Reactor Analysis 1.
Credits: 3

ENU 6107 Reactor Analysis 2.
Credits: 3

ENU 6117 Neutron Transport Theory.
Credits: 2

ENU 6126 Funadmentals of Reactor Kinetics.
Credits: 3

ENU 6147 Fast Reactor Plant Design and Technology.
Credits: 3

ENU 6168 Fast Reactor Analysis.
Credits: 2

ENU 6197 Advanced Nuclear Reactor Power Plant Systems and Design.
Credits: 3

ENU 6210 Computer Programs in the Nuclear Industry.
Credits: 3

ENU 6241 Numerical Methods of Reactor Analysis.
Credits: 3

ENU 6257 Nuclear Data Acquisition and Processing.
Credits: 3

ENU 6307L Radioactive Tracer Instrumentation and Methodology.
Credits: 3

ENU 6516L Nuclear Engineering Laboratory 2.
Credits: 2

ENU 6517L Nuclear Engineering Laboratory 3.
Credits: 2

ENU 6617C Gamma Ray Spectrometry.
Credits: 3

ENU 6627 Radiologic Physics.
Credits: 3

ENU 6636 Fundamental Aspects of Reactor Shielding.
Credits: 2

ENU 6646 Field Problems in Radiation Control.
Credits: 1 to 3

ENU 6656L Medical Radiation Instrumentation and Dosimetry.
Credits: 3

ENU 6657 Nuclear Medicine Instrumentation and Procedures.
Credits: 4

ENU 6701 Gas Lasers and Their Engineering Applications.
Credits: 3

ENU 6717 Thermonuclear Fusion.
Credits: 2

ENU 6725 Plasma Spectroscopy.
Credits: 3

ENU 6730 Introduction to Plasmas.
Credits: 2

ENU 6731 Plasma Theory.
Credits: 2

ENU 6741L Plasma Laboratory.
Credits: 2

ENU 6905 Individual Work.
Credits: 1 to 6

ENU 6910 Supervised Research.
Credits: 1 to 5††

ENU 6935 Nuclear Seminar.
Credits: 1

ENU 6936 Special Projects in Nuclear Engineering Sciences.
Credits: 1 to 9

ENU 6937 Special Topics in Nuclear Engineering Sciences.
Credits: 1 to 9

ENU 6940 Supervised Teaching.
Credits: 1 to 5††

ENU 6971 Research for Master's Thesis.
Credits: 1 to 15††

ENU 7980 Research for Doctoral Dissertation.
Credits: 1 to 15††

NURSING
College of Nursing

INSTRUCTIONAL STAFF 1981-82

Malasanos, L.J., Dean; Alexander, A.W.; Alexander, D.J.; Anderson, G.C.; Baker, A.S.; Barton, P.H.; Bodo, T.L.; Coppo, M.T.; Courage, M.S.; Danek, G.D.; Davidson, N.W.; Davis, J.H.; DePalma, R.A.; Dougherty, M.E.; Dykes, E.E.; Frauman, S.A.; Gary, R.A.; Godbey, K.L.; Greene, D.B.; Griggs, C.C.; Harper, H.E.; Harris, F.G.; Hayes, C.V.; Hilliard, M.E.; Hutchinson, S.A.; Irving, J.A.; Keeter, A.C.; Kerrins, K.; Kiel, K.; Knowles, L.N.; Majorowicz, K.A.; Nichols, A.O.; O'Brien, D.H.; O'Pray, M.M.; Pafford, V.M.; Patray, J.H.; Pierce, P.M.; Rabin, A.B.; Rigdon, I.A.; Schenzinger, V.; Scully, G.L.; Shah, D.B.; Snider, M.J.; Spillane, R.K.; Steadham, C.I.; Stechmiller, J.K.; Strozier, V.R.; Taylor, C.D.; Treloar, D.M.; Tittle, M.B.; Trimmer, D.A.; Visscher, E.M.; White, M.A.; Williams, D.D.; Williams, M.D.

Nursing

NUR 4634C Nursing Process 5. SS.
Credits: 8; Nursing Practicum.
All courses in the nursing major are prerequisite to this course. The student will practice as a nurse generalist in approved settings under faculty supervision.

NUR 4905 Individual Study. F, S, SS.
Credits: 1 to 4; Prereq: 8 hours of upper division nursing courses or consent of instructor.
Individual Study. Qualified students may choose particular nursing care problems for study. Individual study may be extended for additional credit by permission of the college.

NUR 4930 Special Topics. F, S, SS.
Credits: 1 to 3; Prereq: 8 hours of upper division nursing courses or consent of instructor.
At least one nursing course will be offered each term covering a selected topic. Prior to registration, students should contact the Dean's Office, College of Nursing for special topics offered.

Nursing Universals

DYNAMICS OF HUMAN BEHAVIOR SERIES NUR 3060, NUR 3061. The human behavior courses are designed to provide the student with understanding of the health care needs of holistic man and his reciprocal relationship to groups and institutions in his environment.

NUR 3060 Dynamics of Human Behavior 1. F.
Credits: 4; Prereq: Admission to the College of Nursing.
Introduction to human behavior with emphasis on the interaction between the individual and his environment with implications for nursing practice.

NUR 3061 Dynamics of Human Behavior 2. S.
Credits: 4; Prereq: NUR 3060, NUR 3610C; NUU 3223.
Continuation of the series. Emphasis on human behavior and health care needs at selected stages of life with implications for nursing practice.

††Grading is on S-U basis only.

Descriptions

NURSING

NUU 3223 Professional Socialization 1. F.
Credits: 2; Prereq: Admission to the College of Nursing.
Introduction to the role of the professional nurse and the relationship of nursing to the social structure.

FIRST NURSING PROCESS SERIES NUR 3610C, NUR 3611C. This series of courses is designed to provide the student with experience utilizing the nursing process in the promotion and maintenance of health for selected individuals and families. Emphasis will be directed toward assessment, planning, implementation and evaluation. Nursing Process will be directed toward the biological, affective and cognitive domains of man.

NUR 3610C Nursing Process 1. F.
Credits: 8; Prereq: Admission to the College of Nursing.
Introduction to the nursing process with emphasis on promotion and maintenance of health with selected individuals.

NUR 3611C Nursing Process 2. S.
Credits: 8; Prereq: NUR 3060, NUR 3610C, NUU 3223.
Continuation of series with emphasis on promotion and maintenance of health with individuals, families and groups.

NUU 4223 Professional Socialization 2. F, SS.
Credits: 2; Prereq: NUU 3223.
This course is designed to assist students in analyzing and synthesizing components of the professional role in nursing and other health care disciplines.

NUU 4224 Professional Socialization 3. SS.
Credits: 2; Prereq: NUU 4223.
This course is designed to assist students in analyzing issues in professional nursing.

NUU 4300 Introduction to Research Processes in Nursing. S, SS.
Credits: 3; Prereq: NUU 3245, NUR 3611C.
Introduction to general principles and concepts in nursing research with emphasis on critical appraisal of studies.

HEALTH PROBLEMS SERIES NUR 4500, NUR 4501
This series deals with analysis of major national health problems. These courses stress the impact of these problems on individuals, familes and society, as well as the impact nursing has upon health problems. Health problems will be explored under several defined categories.

NUR 4500 Health Problems 1. F, S.
Credits: 6; Prereq: NUU 3245, NUR 3611C.
Analysis of selected major health problems related to the immune, infectious, neoplastic, traumatic, degenerative and developmental processes.

NUR 4501 Health Problems 2. F, S.
Credits: 4; Prereq: NUR 3060, NUR 3611C.
Analysis of selected major health problems related to affective, cognitive environmental and familial processes.

SECOND NURSING PROCESS SERIES NUR 4613C, NUR 4632C. This series of courses is designed to provide the student with experience in utilizing the nursing process in complex health problems.

NUR 4631C Nursing Process 3. F, S.
Credits: 8; Prereq: NUR 3061, NUR 3611C.
Course designed to provide the student with experience in utilizing the nursing process in selected health care problems. Emphasis on restoration, rehabilitation and prevention.

NUR 4632C Nursing Process 4. F, S.
Credits; 8; Prereq: NUR 4631C, NUR 4500.
Course designed to provide student with experience in utilizing the nursing process in selected health care problems. Emphasis on restoration, rehabilitation and prevention.

††Grading is on S-U basis only.

GRADUATE COURSES
Nursing

NUR 5525 Nursing Implications of Family Systems.
Credits: 3

NUR 5750C Client Assessment for Nurses.
Credits: 3

NUR 5932 Nursing Implications of Sexuality in Health and Illness.
Credits: 3

NUR 5940C Internship in Professional Nursing.
Credits: 2; Maximum of 6.

NUR 5946 Critical Care Nurse Internship Program 1.
Credits: 8

NUR 6170C Child Health Nursing: Theoretical Foundations.
Credits: 6

NUR 6171C Child Health Nursing: Theoretical Applications.
Credits: 6

NUR 6180C Theory and Practice in Women's and Infants' Ambulatory Health Care I.
Credits: 6

NUR 6181C Theory and Practice in Women's and Infants' Intrapartal and Primary Health Care II.
Credits: 6

NUR 6370C Psychiatric Nursing I.
Credits: 6

NUR 6371C Psychiatric Nursing II.
Credits: 6

NUR 6460C Family and Community Health Nursing I.
Credits: 6

NUR 6461C Family and Community Health Nursing II.
Credits: 6

NUR 6503C Theory and Practice in Adult Health I: Cardiopulmonary Problems.
Credits: 6

NUR 6504C Theory and Practice in Adult Health Care II: Chronic Health Problems and Primary Care.
Credits: 6

NUR 6720 Physiological Basis of Professional Nursing.
Credits: 3

NUR 6721 Life-Span Development: Concepts and Issues.
Credits: 3

NUR 6905 Individual Study.
Credits: 1 to 3

NUR 6910 Supervised Research.
Credits: 1 to 5††

NUR 6931 Special Topics in Nursing.
Credits: 1 to 3

NUR 6940 Supervised Teaching.
Credits: 1 to 5††

NUR 6944C Individual Clinical Practice.
Credits: 1 to 4

NUR 6945 Practicum in Nursing.
Credits: 3 to 9

NUR 6948 Residency.
Credits: 3; Maximum of 9 credits.

NUR 6970 Research for Master's Project.
Credits: 1 to 4

NUR 6971 Research for Master's Thesis.
Credits: 1 to 15††

Nursing Universals

NUU 6180 Analysis of Health Care Systems.
Credits: 3

NUU 6181 Economics of Health Policy in Nursing.
Credits: 3

NUU 6227 Profiles of Professional Nursing.
Credits: 3

NUU 6228 Conceptual Basis of Professional Nursing.
Credits: 3

NUU 6231 Role and Function of the Nurse Academician.
Credits: 3

NUU 6270 Leadership Roles in Nursing.
Credits: 2

NUU 6271 Role and Function of the Nursing Administrator.
Credits: 3

NUU 6272 Role and Function of the Clinical Specialist.
Credits: 3

NUU 6273 Role and Function of the Nurse Practitioner
Credits: 3

NUU 6291 Cultural Influences in Nursing.
Credits: 3

NUU 6370 Research I.
Credits: 4

NUU 6371 Research II.
Credits: 2

OCCUPATIONAL THERAPY
College of Health Related Professions

INSTRUCTIONAL STAFF 1981-82

Llorens, L.A., Chairman; Burris, B.B.; Gill, A.A.; Menks, F.A.; Miller, R.J.; Samuelson, L.; Shoemyen, C.W.; Shortridge, S.D.; Sieg, K.W.; Slaymaker, C.J.; Veigl, V.

See also course offerings under Health Related Professions (HRP).

OTH 2000 Foundations in Occupational Therapy, F. S.
Credits: 2
Concepts, history, current practice, and trends in occupational therapy. Types of employment in various health care systems.

OTH 3010 Therapeutic Procedures. F.
Credits: 2; Prereq: Admission to Occupational Therapy Curriculum.
Basic skills required for occupational therapy practice.

OTH 3110C Therapeutic Skills. F, S, SS.
Credits: 1 to 8 Prereq. or Coreq: OTH 2000 or consent or instructor.
Principles of hand and machine activities as applied to occupational therapy programs. Occupational Therapy majors require minimum of 8 credits.

OTH 3200C Applied Human Development 1. F.
Credits: 3
Application to occupational therapy of principles of human growth and development from infancy to adolescence.

OTH 3201 Applied Human Development 2. S.
Credits: 3; Prereq: OTH 2000 and OTH 3200C.
Application to occupational therapy of principles of human growth and development from adolescence through senescence.

OTH 4320C Psychosocial Dysfunction. F.
Credits: 4; Prereq: OTH 3200C, HSC 4550.
Occupational therapy evaluation and treatment of patients with psychosocial dysfunction.

OTH 4321C Psychosocial Dysfunction 2.
Credits: 1; Prereq: OTH 4320C.
Continuation of the sequence with emphasis on growth process.

OTH 4412C Musculoskeletal Anatomy and Kinesiology. F.
Credits: 5
Lectures and intensive-laboratory study of the human musculoskeletal system with emphasis on a functional understanding of muscles and biomechanics of movement.

OTH 4421C Health and Physical Dysfunction 1. F.
Credits: 4; Prereq: HSC 4522C, APB 4503C.
First part of the sequence. Occupational therapy evaluation of physical aspects related to health and dysfunction and treatment methods for patients with physical dysfunction.

OTH 4422C Health and Physical Dysfunction 2. S.
Credits: 1 Prereq: OTH 4421C.
Continuation of the sequence.

OTH 4500 Pediatric Health and Dysfunction 1. F.
Credits: 4; Prereq: OTH 3200C and 3201.
Occupational therapy evaluation and treatment of childhood disorders. Early intervention and medical management.

OTH 4501 Pediatric Health & Dysfunction 2.
Credits: 1
Continuation of the sequence.

OTH 4810 Practicum 1. S.
Credits: 2††; Coreq: OTH 3201, HSC 4550.
First part of the sequence OTH 4810-4811. Designed to parallel academic course work. Supervised experience in local clinical settings.

OTH 4811 Practicum 2. F.
Credits: 2†† Prereq: OTH 4810; Coreq: OTH 4320C, OTH 4421C.
Continuation of the sequence.

OTH 4845 Internship 1. S.
Credits: 4; Prereq: Permission of Department Chairman.
First part of the sequence 4845-4846. Supervised clinical experience in facilities approved by the department.

OTH 4846 Internship 2. SS.
Credits: 8 Prereq: OTH 4845.
Continuation of sequence.

OTH 4935 Occupational Therapy Management and Research. S.
Credits: 3; Prereq: Senior classification.
Principles of management and research related to occupational therapy.

GRADUATE COURSES

OTH 6418 Theories of Practice in Occupational Therapy.
Credits: 3

OTH 6419 Occupational Therapy Managment.
Credits: 3

OTH 6539 Seminar: Occupational Therapy Practice 1.
Credits: 3

OTH 6549 Seminar and Practicum Occupational Therapy Practice.
Credits: 5

OTH 6770 Research Methods in Occupational Therapy.
Credits: 2

OTH 6780 Applied Research in Occupational Therapy.
Credits: 3

OTH 6861L Specialty Residency.
Credits: 2 to 10

OTH 6905 Individual Work.
Credits: 1 to 10

ORNAMENTAL HORTICULTURE
College of Agriculture

INSTRUCTIONAL STAFF 1981-82

Carpenter, W.J., Chairman; Barrett, J.E.; Dehgan, B.; Dudeck, A.E.; Hummel, R.L.; Johnson, C.R.; Joiner, J.N.; McConnell, D.B.; Nell, T.A.; Sheehan, M.R.; Sheehan, T.J.

ORH 3008C Introduction to Residential Horticulture. F, SS.
Credits: 3; No Prerequisites.
An introductory coverage of the function and use of ornamental plants in the home interior and exterior landscape. Not open to students in Ornamental Horticulture and Landscape Architecture.

ORH 3231 Grounds Maintenance. S.
Credits: 3; Prereq: ORH 3513.
Basic principles of landscape horticulture are reviewed in lecture sessions and design plans and real situations are analyzed in the laboratory. Both preventive and normal maintenance measures are considered. This course provides a comprehensive survey of landscape maintenance problems with emphasis on institutional and public areas for students interested in landscape design. Students enrolling in this class may be expected to attend Saturday field trips.

ORH 3513C Ornamental Plant Identification I. F, SS.
Credits: 3; Prereq: BOT 2011C or permission of instructor.
Identification, growth characteristics, culture and use of common landscape plants. Materials include trees, palms, shrubs, vines and ground covers utilized in general landscape beautification.

ORH 3514C Ornamental Plant Identification II. S.
Credits: 3; Prereq: ORH 3513.
Identification, growth characteristics, culture and use of less common landscape plants. Materials include trees, palms, shrubs, vines and ground covers utilized in landscape beautification.

ORH 3534 Relationships of Ornamental Plants to the Urban Environment. F.
Credits: 2
Provides basic understanding of the environmental situations influencing plants in urban areas.

ORH 3611 Retail Florist Shop and Garden Center Management. S.
Credits: 3; No Prerequisites.
A basic course in the operations of a retail florist shop and garden centers, including management, shop design and layout, psychology of selling, post harvest handling of flowers, plants and seeds and the principles of artistic design.

ORH 3731 Biological Illustrations. F.
Credits: 3; No prerequisites.
A basic course in the preparation of scientific illustration, including uses of illustration, materials, equipment, layout, design, and preparing sketches to scale. Techniques covered include pen and ink, water color, scratch board, and carbon dust.

ORH 3815C Introduction to Landscape Horticulture. F.
Credits: 3; Prereq: ORH 3513C, ORH 3514C.
A basic course in the study of residential landscapes including preparation, evaluation and implementation of simple landscape plans. Emphasis will be placed on the use of ornamental plants for functional and aesthetic improvement of the home environments.

ORH 4221C Turfgrass Culture. F.
Credits: 4; Prereq: BOT 3503 and BOT 3503L, SOS 3022, and ORH 4411 or with permission of instructor.
Size and scope of turfgrass industry and basic aspects of adaptation, establishment, and maintenance of grasses. Laboratory sessions will include identification, establishment, maintenance, and renovation of turfgrasses.

ORH 4255 Principles of Nursery Operations. S.
Credits: 2; Prereq: PLS 3221, PLS 3221L and ORH 4411 or with permission of instructor.
Principles of establishing and developing woody ornamental nursery. Culture and marketing of container grown woody ornamentals are considered.

ORH 4263 Production of Floricultural Crops. F.
Credits: 3; Recommended prereq: ORH 4411.
Basic concepts of commercial greenhouse construction, maintenance and environmental control techniques are discussed. Emphasis will be placed on the production, handling and marketing of major floriculture crops.

ORH 4263L Floricultural Crops Production Laboratory. F.
Credits: 1; Recommended prereq: ORH 4411, Coreq: ORH 4263.
A laboratory enabling floriculture production majors to become familiar with flower crop production and handling.

ORH 4275C Commercial Production of Foliage Plants. S.
Credits: 3; Prereq: ORH 4411 or permission of the instructor.
Principles and practices involved in production, handling and marketing of foliage plants.

ORH 4276L Foliage and Nursery Production Laboratory. S.
Credits: 2; Prereq. or Coreq: ORH 4275 and ORH 4255.
Practical problems in developing nursery operations, propagation, culture, handling and shipping of foliage and landscape plants.

ORH 4280 Orchidology. S.
Credits: 3; Prereq: ORH 4411.
The principles and practices involved in the production of orchid plants and flowers, including nomenclature, breeding, seed culture, harvesting, and handling.

ORH 4411 Physiological Aspects of Ornamental Plant Production. F.
Credits: 3; Prereq: BOT 3503, BOT 3503L.
Physiological and environmental factors affecting growth and yield of ornamental crops. Greenhouse and field production are both considered.

ORH 4905 Special Topics and Independent Study on Ornamental Horticulture. F, S, SS.
Credits: 1 to 5
Three sections of topics for independent study are offered: A — Research investigation including review of literature, drafting of a proposal, conduct of an experiment, collection of data, summation and interpretation of results and preparation of a report. B — Library or Studio Assignment, including analysis of several sources of information on a specific topic with a written evaluation and list of conclusions prepared. C — Advanced undergraduate research consisting of a continuation of experience in research with a specific plant commodity and conducted as in section A.

ORH 4931 Ornamental Horticulture Seminar. F, S.
Credits: 1
Selected reading, reports and discussion of current literature on ornamental horticultural topics. Emphasis is placed on various means of communication as an aid in understanding and evaluating technical information.

ORH 4941 Full Time Practical Work Experience in Ornamental Horticulture. F, S, SS.
Credits: 1 to 3; S-U Grade only; Prereq: Prior arrangement with adviser, approval of Dept. Chairman and Dean.

PEST MANAGEMENT AND PLANT PROTECTION
College of Agriculture, Special Program

The crop-science departments and the support-

††Grading is on S-U basis only.

ing disciplines of Entomology-Nematology, Weed Science (Plant Sciences), Plant Pathology and the School of Forest Resources and Conservation offer the following general and cross-departmental courses in Pest Management and Plant Protection.

PMA 3010 Fundamentals of Pest Management. F, S.
Credits: 2
Principles of the science that treats the subject of controlling plant pests through integrated systems of management.

PMA 3323C Pesticide Application. F.
Credits: 2
Equipment and methods used to apply pesticides in agriculture; techniques used to avoid misapplication, a common cause of pesticide failures, is emphasized.

PMA 3931 Seminar in Basic Pest Management. S.
Credits: 1; Prereq: PMA 3010.
Group study and discussion of the fundamental concepts that relate to Plant-Pest Management as a science.

PMA 3941 Internship in Pest Management. F, S, SS.
Credits: 1; Prereq: PMA 3010.
On-the-job training as paid, full-time apprentices to pest-management professionals for a minimum of 8 weeks. Enrollment is restricted to students specializing in the program of Pest Management and Plant Protection.

PMA 4401C Understanding and Implementing Pest Management Strategies in Agricultural Systems. S.
Credits: 3
Emphasis on fundamental similarities/differences in pest management across a broad spectrum of specific commodities. Focus on relevant methodologies for gathering and understanding biological/physical data for purposes of making management decisions for single pests and pest complexes. Various methods of information-delivery are studied. Case history studies and PLATO exercises are used to focus on relevant "real world" situations.

PHARMACOLOGY
College of Medicine

INSTRUCTIONAL STAFF 1981-82

Neims, A.H., Chairman; Garg, L.C., Coordinator; Baker, S.P.; Bell, J.U.; Childers, S.R.; Crews, F.T.; Finger, K.; Greenberg, M.; James, M.; Kadzielawa, C.; Kem, W.R.; Leibman K.C.; Maren, T.H.; Muther, T.F.; Prichard, J.B.; Ross, W.; Shiverick, K.T.; Silverman, D.N.; Tu, C.; Vogh, B.P.

PHA 4516 Pharmacology 1. F.
Credits: 4; Prereq: BCH 4023, PHA 3020, PHA 3501C; Coreq: PHA 4120, PHA 4560, PHA 4350 or permisssion of the Co-ordinator.
Principles of Pharmacology based on conjoint discussion of normal and abnormal physiologic and biochemical mechanisms. Special emphasis on drug distribution, metabolism, acid-base balance, digestive and excretory mechanisms, chemotherapy and endocrine pharmacology.

PHA 4517 Pharmacology 2. S.
Credits: 3; Prereq: PHA 4516 or permission of the Co-ordinator.
Continuation of PHA 4516 with special emphasis on nervous, and cardiovascular function.

PHA 4904 Pharmacology Research, F, S, SS.
Credits: 2 to 8; Prereq: B-average and permission of the Co-ordinator.
Laboratory or literature investigations of problems of current interest.

GRADUATE COURSES

BMS 5465 Advanced Medical Pharmacology.
Credits: 4

DEN 6262 Dental Pharmacology.
Credits: 3

BMS 6400C Introduction to Pharmacology.
Credits: 5

BMS 6420 Seminar in Pharmacology.
Credits: 1

BMS 6463 Molecular Pharmacology.
Credits: 5

BMS 6466 Physiological Pharmacology.
Credits: 5

BMS 7421 Research Methods in Pharmacology I.
Credits: 1 to 3; max. 6

BMS 7423 Topics in Pharmacology.
Credits: 1 to 3; max. 12

BMS 7467 Physiology and Pharmacology of Excitable Membranes.
Credits: 2

PHARMACY
College of Pharmacy

INSTRUCTIONAL STAFF 1981-82

Schwartz, M.A., Chairman; Field, F.P., Associate Chairman; McCormick, W.C., Associate Chairman; Perrin, J.H., Associate Chairman; Angorn, R.A.; Curry, S.H.; Finger, K.F.; Garrett, E.R.; Katovich, M.J.; Kimberlin, C.L.; Krischer, J.; Lemberger, M.A.; Schulman, S.G.; Simpkins, J.W.; Villalonga, F.A.

Pharmacy

PHA 3020 Microbiology. S.
Credits: 3; Prereq: Pharmacy Classification.
8asic principles of immunology and microbiology with a medical orientation. Lectures, laboratory demonstrations and discussions.

PHA 3110C Pharmaceutics 1. F.
Credits: 3; Prereq: Pharmacy Classification.
The first course of the sequence PHA 3110C-3111C. The course sequence covers the measurement, description and prediction of physical and chemical parameters used in the systems and operations necessary for pharmaceutical product development and dosage forms. Stability and pharmacokinetics, properties of dosage forms, and pharmaceutical adjuncts are also discussed.

PHA 3111C Pharmaceutics 2. S.
Credits: 3; Prereq: PHA 3110C.
The second course of the sequence PHA 3110C-3111C.

PHA 3411 Analytical Pharmaceutical Chemistry. F.
Credits: 3; Prereq: Pharmacy Classification.
Chemical and instrumental methods of analysis with emphasis on the determination of drugs in dosage forms and biological fluids.

PHA 3412L Analytical Pharmaceutical Chemistry. S.
Credits: 1; Prereq: PHA 3411.
The laboratory experiments to reinforce Analytical Pharmaceutical Chemistry PHA 3411.

PHA 3500C Applied Human Anatomy-Physiology. S.
Credits: 6; Prereq: Pharmacy Classification.
Gross anatomy of the important organ systems of the human and mammalian.

PHA 4103C Pharmaceutics-Dispensing. S.
Credits: 3; Prereq: PHA 4120.
Physical and chemical problems associated with the dispensing of prescribed medications, bioavailability, bio-equivalence and adjustment of dosage regimens associated with diseased states, age and potential drug interactions. The laboratory will consist of applying the above theoretical principles to the dispensing of prescriptions.

PHA 4106C Injection Dosage Forms and Other Sterile Products. S.
Credits: 3; Prereq: PHA 3020 and last year professional student.
Fundamentals of preparing, processing and administration of injection dosage forms and other sterile products. Consideration of equipment, facilities, vehicles, containers, closures, etc. employed for such products.

PHA 4120 Pharmaceutics-Biopharmaceutics. F.
Credits: 3; Prereq: PHA 3111C. Introductory Biopharmaceutics.
An introduction to the study of the time course of drugs in the body with reference to their absorption, distribution, metabolism and elimination. Consideration is given to rate processes, the physiochemical influences on ADME and formulation factors involved in drug delivery and availability.

PHA 4202 Pharmacy Accounting. F.
Credits: 3; Pharmacy Classification.
The first part of the course PHA 4202-4211. Principles, accounting terminology, forms, and content of financial statements used by pharmacy organizations are studied.

PHA 4211 Pharmacy Management. S.
Credits: 3; Pharmacy Classification.
An introduction to the management principles and procedures which support the efficient and effective delivery of pharmacy services. The three basic subject areas are systems management, financial management, and personnel management.

PHA 4232 Pharmaceutical Law. F.
Credits: 3; Prereq: Pharmacy Classification.
A study of the federal, state, and local laws and regulations relating to all aspects of the profession of pharmacy.

PHA 4506 Body Fluids and Electrolytes. S.
Credits: 2; Prereq: PHA 4516
Pharmacological treatment of topics related to body fluids, electrolytes, acid-base balance, ion exchange resins, carbonic anhydrase inhibitors, plasma extenders, and parenteral alimentation.

PHA 4560 Pathophysiology-Disease Processes. F.
Credits: 3; Prereq: PHA 3500C.
Introduction to disease processes.

PHA 4742 Communication Skills for Pharmacy Students. F.
Credits: 2; Prereq: Pharmacy Classification.
Students will learn basic communication skills which will improve the effectiveness of communicating with patients and colleagues. These skills will be specific to functions clinical pharmacists perform in practice.

PHA 4821 Radiopharmaceutics. S.
Credits: 3; Prereq: Pharmacy classification or permission.
Basic physical phenomena of radiation and how radio-pharmaceutics are safely handled, dispensed and used in diagnosing and treating disease states.

PHA 4905 Problems in Pharmacy. F, S, SS.
Credits: 1 to 2††; Prereq: PHA 3111C.
Laboratory and/or literature investigations of problems in pharmacy of current interest. May be repeated for a maximum of 6 credits with approval of departmental chairman.

PHA 4930 Pharmacy Seminar. S.
Credits: 2††; Prereq: 5PH Classification.
Literature investigations and reports by students on problems in pharmacy of current interest.

PHA 4933 Selected Topics in Pharmacy. F, S, SS.
Credits: 1 to 3; Prereq: Consent of instructor.

††Grading is on S-U basis only.

GRADUATE COURSES

PHA 5121 Clinical Pharmacokinetics. F.
Credits: 3; Prereq: PHA 4120 or by special arrangement.

PHA 5508 Principles of Endocrinology. SS.
Credits: 3; Prereq: Course in physiology.

PHA 6107C Parenterals.
Credits: 3

PHA 6115 Equilibria, Complexations and Interactions of Drugs.
Credits: 3; Prereq: CHM 4412, MAC 3314 or MAP 5304 or special arrangement.

PHA 6116 Stability and Kinetics of Drugs.
Credits: 3; Prereq: CHM 6440, 6226, and PHA 6115 or special arrangement.

PHA 6125 Pharmacokinetics and Biopharmaceutics.
Credits: 3; Prereq: PHA 6116 and a course in pharmacology, or by special arrangement.

PHA 6148C Pharmaceutical Product Formulation.
Credits: 2

PHA 6155 Hospital Pharmacy Seminar.
Credits: 1; maximum of 3 credits.

PHA 6225 Hospital Pharmacy Administration.
Credits: 2

PHA 6227 Health Care Administration in Long Term Care Settings.
Credits: 2; Prereq: HCA 6101 or consent of the instructor.

PHA 6235 Advanced Pharmaceutical Law.
Credits: 3

PHA 6236 Health Sciences Liability Law.
Credits: 2

PHA 6237 Pharmaceutical Law Seminar.
Credits: 1; Maximum of 2.

PHA 6905 Research Methods in Pharmaceutical Sciences.
Credits: 1 to 4; Prereq: MAC 3312, CHM 4410.

PHA 6910 Supervised Research.
Credits: 1 to 5††

PHA 6935 Selected Topics in Pharmacy.
Credits: 2

PHA 6936 Advanced Topics in Pharmaceutical Sciences.
Credits: 1; maximum of 4.

PHA 6937 Topics in Pharmaceutical Administration.
Credits: 2

PHA 6938 Research Seminar.
Credits: 1

PHA 6940 Supervised Teaching.
Credits: 1 to 5††

PHA 6971 Master's Research.
Credits: 1 to 15††

PHA 7980 Doctoral Research.
Credits: 1 to 15††

PHARMACY-MEDICINAL CHEMISTRY
College of Pharmacy

INSTRUCTIONAL STAFF 1981-82

Bodor, N.S., Chairman; Bergeron, R.J.; Finger, K.F.; Hammer, R.H.; James, M.O.; Sloan, K.B.; Rao, K.V.

PHA 3351 Natural Psychotropic Drugs. SS.
Credits: 2; Prereq: Pharmacy classification or by permission.
An in-depth presentation covering the sources, chemical characteristics, physiological activity and possible toxic effects of a number of naturally occurring psychotropic agents many of which are commonly in use in the drug subculture.

PHA 4350 Medicinal Chemistry 1—Natural Products. F.
Credits: 3; Prereq: BCH 4203.
Isolation, structure and pharmaceutical applications of natural products used as prescription and non-prescription drugs, with emphasis on structure/activity associations.

PHA 4352 Folk Medicine. F.
Credits: 2; Prereq: PHA 4350 or permission of instructor.
Folk medicine is the use of herbal remedies and dietary changes in the prevention and treatment of disease. This course provides a basic understanding of the pharmaceutical, medical and social aspects of folk medicine as it is being practiced in the U.S.

PHA 4413 Chromatographic Separations. F.
Credits: 1; Prereq: PHA 3412L or permission from the instructor.
Lecture and laboratory course for the study of methods for the qualitative and quantitative determination of drugs in pharmaceutical products by chromatographic methods.

PHA 4435 Medicinal Chemistry 2. S.
Credits: 3; Prereq: PHA 4120.
The relationship of physical and chemical factors to drug activity of inorganic and organic medicinal compounds.

PHA 4436 Medicinal Chemistry 3. SS.
Credits: 3; Prereq: PHA 4435.
The second quarter of PHA 4435-4436.

PHA 4906 Problems in Medicinal Chemistry. F, S, SS.
Credits: 1 to 2††; Prereq: PHA 4350, an average of 2.75 in all chemistry and pharmaceutical chemistry courses taken and permission of the instructor. May be repeated for maximum of 6 credits.
Library and/or laboratory research on assigned subjects.

GRADUATE COURSES

PHA 5359 Cancer Chemotherapy. S.
Credits: 2; Prereq: PHA 4350, BCH 4203.

PHA 6354 Natural Medicinal Products I.
Credits: 3

PHA 6355 Natural Medicinal Products II.
Credits: 3

PHA 6357L Natural Medicinal Products I.
Credits: 2

PHA 6358L Natural Medicinal Products II.
Credits: 2

PHA 6416 Pharmaceutical Analysis I.
Credits: 3

PHA 6417 Pharmaceutical Analysis II.
Credits: 4

PHA 6418 Pharmaceutical Analysis III.
Credits: 3

PHA 6445 Drug Design.
Credits: 3

PHA 6470 Synthetic Medicinal Products I.
Credits: 3

PHA 6471 Synthesis and Modification of Drugs
Credits: 3

PHA 6472L Synthetic Medicinal Products I.
Credits: 2

PHA 6474 Metabolism and Toxicity
Credits: 2

PHA 6905C Research Procedures in Medicinal Chemistry.
Credits: 1 to 4

PHA 6910 Supervised Research.
Credits: 1 to 5††

PHA 6934 Seminar in Medicinal Chemistry.
Credits: 1

PHA 6940 Supervised Teaching.
Credits: 1 to 5††

PHA 6971L Master's Research.
Credits: 1 to 15††

PHA 7980L Doctoral Research.
Credits: 1 to 15††

PHARMACY PRACTICE
College of Pharmacy

INSTRUCTIONAL STAFF 1981-82

Stewart, R.B., Chairman; Araujo, O.E.; Baumgartner, T.; Dame, M.F.; DeVane, C.L.; Doering, P.L.; Duncan, C.A.; Engel, S.I.; Forgnone, M.M.; Folkerts, L.B.; Gotz, V.P.; Harrison, W.L.; Hendeles, L.; House, M.L.; Jones, J.H.; Lopez, L.M.; May, F.E.; McKenzie, M.W.; Munyer, T.O.; Osterberger, D.J.; Pevonka, M.P.; Pieper, J.A.; Ramirez, D.; Robinson, J.D.; Russell, W.L.; Spears, J.B.; Yost, R.L.; Zaenger, P.M.

Pharmacy Practice

PHA 3630C Externship 1. F.
Credits: 2; Prereq: 3PH Classification.
Introduction to the professional practice components of ambulatory pharmacy practice. Competencies essential to comprehensive pharmaceutical care are identified and discussed. Medications most frequently dispensed in the ambulatory setting are studied.

PHA 3631C Externship 2. F.
Credits: 2; Prereq: 3PH Classification.
Introduction to the basic practice competencies associated with institutional pharmacy. Medications primarily dispensed for inpatients and interpretive information regarding common laboratory tests are discussed.

PHA 3710 Pharmacy Calculations. F.
Credits: 1: Prereq: Pharmacy Classification.
Calculation of doses, percentage preparations, dilution and concentration, and isotonic electrolyte solutions are undertaken.

PHA 4150 Hospital Pharmacy. S.
Credits: 2; Prereq: PHA 3110C.
An introduction to the practice of pharmacy in hospitals.

PHA 4602 Therapeutics. SS.
Credits: 5; Prereq: 5PH Classification.
This course provides a basic introduction to the therapy of common disease states. The physiologic, economic, and social impact of disease is presented. Students will receive information on pathophysiology of common disease states, current therapeutic measures to treat disease and principles of monitoring drug therapy in patients.

PHA 4632C Practicum Clerkship. F, S.
Credits: 10; Prereq: PHA 4602.
This course provides the pharmacy student supervised exposure and involvement in patient care through monitoring patient drug therapy; obtaining patient drug histories and interviews; professional interaction with patients, physicians, nurses, and allied health practitioners; and participating in physician rounds.

PHA 4760 Dermatological Drug Products and Their Uses. F, S.
Credits: 2; Prereq: PHA 3111C, PHA 3020.
A study of dermatological drugs of choice in the treatment of the various abnormal skin condi-

††Grading is on S-U basis only.

tions. The importance of the role of the pharmacist in this area is emphasized and discussed.

PHA 4769 Non-Prescription Products. SS.
Credits: 2; Prereq: PHA 4437.
A course for the study of products used by the self-medicating public. Included is material on the symptoms for which patients seek self-treatment, evaluation and selection of products used to treat these symptoms, aspects of patient counseling in the safe and effective use of the product, and the various legal considerations of this class of drugs.

PHA 4907 Problems in Pharmacy Practice. F, S, SS.
Credits: 1 to 2††; Prereq: Pharmacy Classification.
Library, laboratory or pharmacy practice investigations of problems of current interest. May be repeated for a maximum of 6 credits with department approval.

DOCTOR OF PHARMACY PROGRAM (Pharm. D.)

PHA 5535 Management of the Poisoned Patient. SS.
Credits: 2; Prereq: Pharm. D. Status.
This course is intended to prepare the practitioner to function as a consultant to other health care professionals in the management of poison victims, information retrieval will be emphasized as well as actual participation in the management of poisoned patients.

PHA 5601 Individualizing Dosage Regimens. S.
Credits: 2
This course is designed to provide the student with the knowledge and skills necessary for employing pharmacokinetic principles in the selection and evaluation of drug therapy. Emphasis is placed upon the development of dosage regimens on individual patients in the J. Hillis Miller Health Center.

PHA 5605 Advanced Topics in Clinical Pharmacy. F, S.
Credits: 2; Maximum of 6 credits; Prereq: 1PD Classification.
Recent literature and new drug entities relevant to the practice of clinical pharmacy.

PHA 5609 Pediatric Pharmacy. F.
Credits: 2; Prereq: 4PH Classification.

PHA 5680 Advanced Clinical Pharmacy Clerkship-Internal Medicine. F, S, SS.
Credits: 2; Must be repeated for a minimum of 6 credits; Prereq: Successful completion of the didactic phase of the Advanced Clinical Pharmacy Program and recommendation of the student's supervisory committee.
The student will be assigned to Internal Medicine service for 8 weeks. Activities include participation in drug therapy monitoring, drug therapy, selection, patient interviewing, and discharge planning.

PHA 5681 Advanced Clinical Pharmacy Clerkship-Pediatrics. F, S, SS.
Credits: 2; Must be repeated for a minimum of 6 credits. Prereq: Successful completion of the didactic phase of the Advanced Clinical Pharmacy Program and recommendation of the student's supervisory committee.
The student will be assigned to Pediatric Services for 8 weeks. Activities include participation in drug therapy monitoring, drug therapy selection, patient interviewing, and discharge planning.

PHA 5682 Advanced Clinical Pharmacy Clerkship-Psychiatry. F, S, SS.
Credits: 2; Prereq: Successful completion of the didactic phase of the Advanced Clinical Pharmacy Program and recommendation of the student's supervisory committee.
The student will be assigned to an inpatient Psychiatry Service for 4 weeks. Activities include participation in drug therapy monitoring, drug therapy selection, patient interviewing, and discharge planning.

††Grading is on S-U basis only.

PHA 5683 Advanced Clinical Pharmacy Clerkship-Chronic Care Ambulatory Medicine. F, S, SS.
Credits: 2; Must be repeated for a minimum of 6 credits. Prereq: Successful completion of the didactic phase of the Advanced Clinical Pharmacy Program and recommendation of the student's supervisory committee.
Activities include participation in drug therapy monitoring, drug therapy selection, patient interviewing, and discharge planning in the unique settings provided.

PHA 5684 Advanced Clinical Pharmacy Clerkship-Electives. F, S, SS.
Credits: 1 to 6; Prereq: Successful completion of the didactic phase of the Advanced Clinical Pharmacy Program and recommendation of the student's supervisory committee.
The student will actively participate in drug therapy monitoring, drug therapy selection, patient interviewing, and discharge planning on a clinical speciality service designed as an elective rotation.

PHA 5685 Advanced Clinical Pharmacy Clerkship-Drug Information. F, S, SS.
Credits: 2; Prereq: Approval of student's supervisory committee.
The student will be assigned to the Drug Information and Pharmacy Resource Center (DIPRC) in the College of Pharmacy for a 4-week period. Participating functions will comprise response to inquiries received by DIPRC, writing Pharmacy and Therapeutic Committee reports, supervision of undergraduate students in DIPRC, and assist in preparation of the DIPRC newsletter.

PHA 5686 Advanced Clinical Pharmacy Clerkship-Total Parenteral Nutrition. F, S, SS.
Credits: 2; Prereq: Successful completion of the didactic phase of the Doctor of Pharmacy Program and recommendation of the student's supervisory committee.
The student will be assigned to the Parenteral Nutrition Consult Service for 4 weeks. Activities include participation in monitoring therapy, nutritional evaluation and patient interviewing.

PHA 5687 Advanced Clinical Pharmacy Clerkship-OB/GYN and Clinics. F, S, SS.
Credits: 2; Prereq: Successful completion of the didactic phase of the Advanced Clinical Pharmacy Program and recommendation of the student's supervisory committee.
The student will be assigned to Obstetrics and Gynecology Services for 4 weeks. Activities include patient drug therapy monitoring, any therapy selection, patient interviews and discharge planning. Participation in both out-patient and in-patient activities will be expected of the student.

PHA 5691 Advanced Clinical Pharmacy Clerkship — Pediatric Pharmacokinetics. F, S, SS.
Credits: 2; Prereq: Second year status in the Pharm.D. program.
The student will be assigned to the Pediatric Pharmacokinetic Service for 4 weeks. Activities include providing written consultation to in-patient pediatric services on various drugs (aminoglycosides, anticonvulsants, barbiturates, etc.)

PHA 5692 Advanced Clinical Pharmacy Clerkship — Pharmacokinetics — Ambulatory Care. F, S, SS.
Credits: 2; Prereq: Second year status in the Pharm.D. program.
The student will be assigned to the Pharmacokinetic Service at the Family Practice Center for 4 weeks. The student will prescribe written consultative information for physicians for various drug dosing problems (including theophylline, anticonvulsants, antiarrhythmic agents, etc.)

PHA 5693 Advanced Clinical Pharmacy Clerkship — Pharmacokinetics Laboratory. F, S, SS.
Credits: 1; Prereq: Second year status in the Pharm.D. program.
The student will be assigned to the Pharmacokinetics laboratory for 2 weeks full-time activity. Activities include preparation of biological samples for laboratory analysis and interpretation of laboratory data.

PHA 5745 In-Service and Patient Communication Skills for Pharmacists. S.
Credits: 2; Prereq: PD (Pharm.D.) status or approval of the instructor.
This course is designed to enhance the ability of the pharmacy student to serve as a pharmacy resource person, i.e. to communicate with peers, students, patients and other health professionals.

PHA 5905 Clinical Pharmacy Research. F, S, SS.
Credits: 1 to 6; Prereq: PD (Pharm.D.) classification. Approval of the program's coordinator or the student's supervisory committee.
Individual study in areas of clinical practice or therapeutics. Credit variable and may be repeated. Each Pharm.D. student must complete 4 credits as requirements for the degree.

PHA 5939 Toxicology Seminar. F.
Credits: 1; Prereq: Must be enrolled in the Doctor of Pharmacy Program and have completed the course entitled Management of the Poisoned Patient.
This course consists of a seminar period in which one student will prepare and present a case of poisoning seen recently in the Emergency Department. Standard treatment methodologies will be discussed and a comparison of this recommended treatment to that actually received by the patient will be made.

PHA 6607 Therapeutics in Clinical Pharmacy 1.
Credits: 3

PHA 6608 Therapeutics in Clinical Pharmacy 2.
Credits: 3

PHA 6790 Drug Information.
Credits: 3

PHILOSOPHY
College of Liberal Arts and Sciences
INSTRUCTIONAL STAFF 1981-82

Baum, R.J., Chairman; Zeman, J.J., Associate Chairman; Auxter, T.P.; D'Amico, R.; Elliott, H.H.; Haring, E.S.; Haynes, R.P.; Holly, M.G.; Lewis, A.L.; Schutte, O.M.; Simon, T.W.

The major: An undergraduate majoring in philosophy takes a minimum of 24 hours from the courses listed below. Normally at least 9 hours will be at the 4000 level. No specific courses are required. The Department strongly recommends early and frequent consultation with its faculty advisers to assure each student a coherent program meeting his or her interests and career plans. For instance, somewhat different courses are recommended respectively to pre-law students, to those with interests in history and literature, and to those who may continue in philosophy.

Courses: There are no prerequisites for 2000 and 3000 level courses. Work in the latter is more demanding but not beyond able underclassmen. Enrollment in a 4000 level course requires the permission of the instructor.

Since the descriptions below are general, and not all courses are offered every year, more precise information about offerings is posted on the bulletin board outside Room 240A, ASB, the Department office. Different sections under a given course number usually do not have an identical content, so the board must be read before registration.

Honors: There are three requirements for honors. A student must (a) have and maintain a 3.5 average in philosophy, (b) elect 9 hours of 4000 level course work and (c) in addition take 3 hours of PHI 4912, the Honors Seminar. Application must be made to the Department at least one semester before graduation and preferably two semesters.

Philosophers and Schools

PHP 3765 Marx.
Credits: 3
An introduction to Marx's social and political philosophy through selected readings in Marx and later theorists, e.g., Lenin, Luckacs, Gramsci.

PHP 3780 Meaning, Value and Action.
Credits: 3
A study of problems arising in the development of societies and individuals, involving relationships between knowledge and human values. Readings usually in Peirce, James, Dewey and contemporary authors. This course is an elective in American Studies.

PHP 3786 Topics in Existentialism.
Credits: 3; No prereq.
A study of selected topics in the religious and philosophical writings of the existentialist thinkers.

PHP 4000 Plato.
Credits: 3
An intensive study of at least one major dialogue together with related writings.

PHP 4010 Aristotle.
Credits: 3
An advanced introduction to central theories and themes.

PHP 4410 Kant.
Credits: 3
A study of one or more of Kant's major philosophical works.

PHP 4782 Phenomenology.
Credits: 4
A study of the major writings of one or more of the phenomenologists.

PHP 4784 Analytic Philosophy.
Credits: 3
The study of one or more major works or themes in recent British-American philosophy.

All PHP courses listed below may be repeated with change of content up to a maximum of 9 credits in the case of 3 credit courses and up to a maximum of 12 credits in the case of 4 credit courses.

GRADUATE COURSES

PHP 5005 Studies in Plato.
Credits: 3

PHP 5015 Studies in Aristotle.
Credits: 3

PHP 5415 Studies in Kant.
Credits: 3

PHP 5781 Studies in Pragmatism.
Credits: 4

PHP 5785 Studies in Analytic Philosophy.
Credits: 3

PHP 6419 Seminar in Kant.
Credits: 4

PHP 6783 Seminar In Phenomenology.
Credits: 4

PHP 6785 Seminar in Analytic Philosophy.
Credits: 4

Philosophy

PHI 2010 Introduction to Philosophy. F, S.
Credits: 3
A sampling of philosophical problems and methods through the study of traditional and/or contemporary works selected by each instructor.

PHI 2015 Honors Introduction to Philosophy. F, S.
Credits: 3
A sampling of philosophical problems and methods through the study of traditional and/or contemporary works selected by each instructor.

PHI 2100 Logic. F, S.
Credits: 3
An introduction to ways of analyzing arguments and a study of some of the elementary tools of logic. Some portions of the course may be adapted on request, to specific fields, e.g., prelaw, business.

PHI 2403 Science, Myth and Value. F, S.
Credits: 3
An approach to the sciences contrasting them with proto-scientific and non-standard scientific modes of thought, examining the roles of science and myth in society, and assessing the relation between science and technology.

PHI 2630 Contemporary Moral Issues. F, S.
Credits: 3
An application of philosophical analysis to current moral issues.

PHI 2930 Special Topics.
Credits: 1 to 3
An occasional course offered according to the current interest of the faculty. May be repeated with change of content up to a maximum of 8 credits.

PHI 3130 Symbolic Logic.
Credits: 4
A systematic study of forms of deduction by the technique of truth-functional analysis and quantification.

PHI 3300 Theory of Knowledge.
Credits: 3
Exploration of basic issues: e.g., the nature and cognitive role of perception; the definition of truth; what, if anything, can be certainly known.

PHI 3320 Philosophy of Mind.
Credits: 3
An examination of theories of mind and of problems such as the nature of the self, the relation of the mental to the physical, and minds vs. machines. Readings may be taken from sources in psychology and neurophysiology as well as philosophy. May be repeated with change of content up to a maximum of 6 credits.

PHI 3400 Philosophy of Science.
Credits: 3
A basic introduction to central contemporary issues, e.g., the nature of laws, the logic of discovery and the relationships between various sciences. Emphasis on the physical sciences. This course is a sequel to PHI 2403 but does not presuppose it.

PHI 3420 Philosophy of Social Science.
Credits: 3
A study of such problematic topics as the scientific status of social science, the relationships between individuals and groups and the nature of cultural relativity.

PHI 3451 Philosophy and Biology.
Credits: 3
Intensive study of problems presented by developments in the biological sciences and medicine. Topics include reductionism vs. holism, and theory-construction, as well as more general issues such as humans' relation to their environment. No prerequisite, but PHI 3400 is recommended.

PHI 3650 Moral Philosophy.
Credits: 4
Analysis and criticism of various ideals of human excellence, and standards for making moral decisions.

PHI 3700 Philosophy of Religion.
Credits: 3
A philosophical examination of religious thought and experience.

PHI 3800 Aesthetics.
Credits: 4
An approach to the fine arts via questions about the nature of art, creativity, aesthetic experience and critical judgments.

PHI 3930 Special Topics.
Credits: 1 to 3
An occasional course offered according to the current interests of the faculty. Repeatable with change in content up to 6 credits.

PHI 4131 Advanced Symbolic Logic.
Credits: 4; Prereq: PHI 3130.
Deductive techniques. A consideration of formal systems and related topics. May be repeated with a change in content up to a maximum of 12 credits.

PHI 4227 Philosophy and Linguistics.
Credits: 3
Topics include methodological approaches to language and philosophical issues in linguistics.

PHI 4360 Theory of Knowledge.
Credits: 3
Examination of positions and issues, usually with a contemporary emphasis.

PHI 4404 Issues in Philosophy of Science.
Credits: 4
Examination of contrasting positions respecting physical and/or biological and/or social science.

PHI 4460C Philosophical Issues in Agriculture.
Credits: 3
A normative study of fundamental relationships between human beings and the land and life forms sustaining them.

PHI 4540 Metaphysics.
Credits: 3
Examination of positions and issues, usually with a contemporary emphasis.

PHI 4633 Ethical Issues in Medicine.
Credits: 3
An exploration in depth of problems in medical practice and research which have an ethical component.

PHI 4680 Theory of Value.
Credits: 3
Examination of positions and issues, usually with a contemporary emphasis.

PHI 4764 Philosophy of Religion.
Credits: 3
Examination of positions and issues, usually with a contemporary emphasis.

PHI 4801 Philosophy of Art.
Credits: 3
The exploration of one or more issues concerning the function of art, the role of artists and the relation of different arts to one another.

PHI 4905 Individual Work.
Credits: 1 to 3; Prereq: 9 hours of work in philosophy and permission of the Department.

PHI 4912 Honors Seminar.
Credits: 3
Open to qualified philosophy majors, upon application to the Department.

PHI 4930 Advanced Undergraduate Special Topics.
Credits: 1 to 3
An occasional course offered according to the current interests of the faculty. May be repeated with change in content up to a maximum of 9 credits.

All PHI courses listed below may be repeated with change of content up to a maximum of 9 credits in the case of 3 credit courses and up to a maximum of 12 credits in the case of 4 credit courses.

GRADUATE COURSES

PHI 5136 Graduate Symbolic Logic.
Credits: 4; Prereq: PHI 3130.

PHI 5225 Studies in Philosophy and Linguistics.
Credits: 3

Descrriptions

PHILOSOPHY

PHI 5365 Studies in Theory of Knowledge.
Credits: 3

PHI 5405 Studies in Issues in Philosophy of Science.
Credits: 4

PHI 5505 Studies in Metaphysics.
Credits: 3

PHI 5685 Studies in Theory of Value.
Credits: 3

PHI 5705 Studies in the Philosophy ot Religion.
Credits: 3

PHI 5807 Studies in the Philosophy of Art.
Credits: 3

PHI 5905 Individual Work.
Credits: 1 to 4

PHI 5934 Graduate Special Topics.
Credits: 1 to 3

PHI 6105 Seminar in Logic.
Credits: 4

PHI 6325 Seminar in the Philosophy of Mind.
Credits: 4

PHI 6426 Seminar in Epistemology and Social Theory.
Credits: 4

PHI 6456 Psychology and Philosophy of Science.
Credits: 4

PHI 6686 Seminar in Problems of Value.
Credits: 4

PHI 6806 Seminar in the Philosophy of Art.
Credits: 4

PHI 6905 Individual Work.
Credits: 1 to 4

PHI 6910 Supervised Research.
Credits: 1 to 5††

PHI 6934 Special Topics.
Credits: 1 to 4

PHI 6940 Supervised Teaching.
Credits: 1 to 5††

PHI 6971 Master's Research.
Credits: 1 to 15††

PHI 7980 Doctoral Research.
Credits: 1 to 15††

Philosophy, History of

PHH 2100 Philosophical Origins I.
Credits: 3
A study of the origins in pre-Renaissance thought of major ideas still current today. Readings from such thinkers as Plato, Aristotle, Augustine and Aquinas.

PHH 2400 Philosophical Origins II.
Credits: 3
An examination of philosophical ideas arising from the major discoveries and revolutions, both political and scientific, that mark the modern age. The course will consider such figures as Descartes, Galileo, Rousseau, Locke, Marx, Mill and Nietzsche.

PHH 3100 Ancient Greek Philosophy.
Credits: 4
The history of philosophy from the pre-Socratics to Medieval, emphasizing selected primary sources.

††Grading is on S-U basis only.

PHH 3400 Modern Philosophy.
Credits: 4; No prereq.
The history of philosophy from Descartes to Kant, the period strongly influenced by modern science; selected primary works.

PHH 3620 Conceptual Analysis.
Credits: 4
An investigation of the nature and principles of a major contemporary philosophical movement known as conceptual, or linguistic, analysis. The principles studied may be applied to some real-life problems of current interest.

PHH 3640 Existentialist Thought.
Credits: 4
An introductory study of the basic religious, literary or philosophical writings of the early existentialist thinkers.

PHH 4130 Early Greek Philosophy.
Credits: 3
An examinination of the first, i.e., pre-Socratic, stages of Western philosophy—with some reference both to cultural context and to later influence.

PHH 4205 Medieval Philosophy.
Credits: 3
The study of representative works from the period c. 400-1400.

PHH 4401 Themes in Modern Philosophy.
Credits: 3
An examination of dominant themes and representative figures from the modern period.

PHH 4500 Nineteenth Century Philosophy.
Credits: 3
An examination of one or more figures or schools of thought from the post-Kantian period.

PHH 4703 The Pragmatic Movement.
Credits: 4
A consideration of the extent to which the work of Peirce, James, Dewey, Mead and Lewis forms an organized philosophical position; an elective in American Studies.

All PHH courses listed below may be repeated with change of content up to a maximum of 9 credits in the case of 3 credit courses and up to a maximum of 12 credits in the case of 4 credit courses.

GRADUATE COURSES

PHH 5135 Studies in Early Greek Philosophy.
Credits: 3

PHH 5206 Studies in Medieval Philosophy.
Credits: 3

PHH 5406 Studies in Modern Philosophy.
Credits: 3

PHH 5505 Studies in Nineteenth Century Philosophy.
Credits: 3

PHH 5646 Studies in Phenomenology.
Credits: 3

PHH 6069 Seminar on Themes in Classical/Medieval Philosophy.
Credits: 4

PHH 6106 Seminar in Ancient Philosophy.
Credits: 4

PHH 6405 Seminar in Modern Philosophy.
Credits: 4

PHH 6509 Seminar in 19th Century Philosophy.
Credits: 4

PHH 6649 Seminar in 20th Century European Philosophy.
Credits: 4

Philosophy of Man and Society.

PHM 2142 Systems Philosophy, Energy and the Environment.
Credits: 3
An introductory, interdisciplinary exploration of current environmental problems from a systems energetics viewpoint. Ethical implications for planning our future.

PHM 2204 Social Issues and Social Thought.
Credits: 3
A survey of fundamental issues in social philosophy designed as an introduction to classic works in social and political philosophy accessible to the first or second year student and the relation of these works to current events.

PHM 3201 Critical Social Theory.
Credits: 3
Problems and issues in the development of contemporary social and political philosophy.

PHM 3202 Political Philosophy.
Credits: 3
A study of political theories and their relation to political transformation.

PHM 3224 Feminism and Philosophy.
Credits: 3
Analysis of various philosophies of feminism, e.g., Existentialist, Marxist, Socialist, in order to develop a philosophy of feminism.

PHM 3400 Philosophy of Law.
Credits: 3
Introduction to philosophical issues in legal theory, covering such topics as the justification and source of legal authority, nature of the judicial process, rights, justice, civil liberties, and the relation of law and morality.

PHM 3420 The Individual and The Law.
Credits: 3
Study of selected topics and problems as they present themselves to citizens, lawyers, philosophers and scientists; emphasis on philosophical presuppositions implicit in juridical thinking.

PHM 3500 Philosophy of History.
Credits: 3
An inquiry into basic issues concerning history as made and history as investigated. Major theories of historical development and/or contemporary analytic controversies will be considered.

PHM 4003 Philosophies of the Human Condition.
Credits: 3
Inquiry into philosophical disputes concerning the existence of a fixed human nature. The emphasis in the course is on 19th and 20th century philosophers in whom the rejection of traditional doctrines of human nature leads to different systems of value and ends of human action.

PHM 4035 Nature, Man and Woman.
Credits: 3
A philosophical study of the facts, mystiques, valid and invalid practices, notions and emotions surrounding the traditional male and female sex roles. As both an upper division and seminar style course it may have changing content within the general bounds of the previous statement.

PHM 4055 Philosophy and Mental Health.
Credits: 3
Discovering, comparing and criticizing diverse philosophical presuppositions implicit in various types of psychological care and prevention.

PHM 4440 Problems in the Philosophy of Law.
Credits: 3
An examination of various traditionally philosophical issues appearing in legal theory, practice and literature, emphasis on such topics as the concepts of responsibility, causation, punishment and intentionality.

PHM 4501 Advanced Philosophy of History.
Credits: 3
An investigation of controversial topics related to

history; e.g., explanation, general laws, objectivity and relativism. One or more classical theories of history will be examined.

PHM 4700 Philosophy of Culture.
Credits: 3
Contemporary philosophic perspectives on the nature and formation of culture.

PHM 4824 Economic Philosophy.
Credits: 3
A survey organized either chronologically or thematically examining the contribution of philosophers to the study of economy. Such issues as concepts of human nature, goal

All PHM courses listed below may be repeated with change of content up to a maximum of 9 credits in the case of 3 credit courses and up to a maximum of 12 credits in the case of 4 credit courses.

GRADUATE COURSES

PHM 5505 Advanced Philosophy of History.
Credits: 3

PHM 5520 Studies in Philosophy of Culture.
Credits: 3

PHM 5826 Studies in Economics Philosophy.
Credits: 3

Religion

REL 3620 Philosophies of Judaism.
Credits: 3
An investigation of selected figures and themes in the Jewish philosophical tradition both classical and modern. Various approaches both mystical and rational will be considered May be repeated with change of content up to a maximum of 9 credits.

GENERAL PHYSICAL EDUCATION
College of Physical Education
Health, and Recreation

INSTRUCTIONAL STAFF 1981-82

Moore, C.A., Chairman; Alexander, R.H.; Benson, M.; Chafin, M.B.; Eckdahl, J.; Harlan, W.E.; Lee, P.A.; Meng, P.C.; Moore, A.C.; Pye, R.L.; Ryan, M.P.; Scott, T.M.; Stephens, F.W.; Weaver, E.J.; Welsch. W.R.; Williams, C.S.

The elective program of physical education is dedicated to the development of personal fitness, recreation lifetime skills, and the shaping of desirable attitudes concerning health and physical activity. Roman numerals indicate general levels of skill at which instruction is directed as follows:

Roman Numeral I:
Indicates beginner or novice level. No prior experience or knowledge needed. Emphasis on basic skills.

Roman Numeral II:
Indicates middle or intermediate level. Prior instruction or experience necessary. Emphasis on refining techniques.

Roman Numeral III:
Indicates high level. Prior instruction at level II or equivalent necessary. Students will be asked to demonstatrate leadership and direction.

Dance Activities

DAA 1100 Modern Dance. F, S.
Credits: 1
A course designed for the beginning dancer pursuing recreational or a serious interest in studying dance.

DAA 1300 Social Dance. S, F.
Credits: 2
Designed to teach knowledge and skills in traditional ballroom Latin-American and current pop dancing

DAA 1310 Square Dance. S, F.
Credits: 1
The basic skills, formations and techniques of performing a variety of styles of square dances. Also includes instruction in line and circle dances.

DAA 1340 Folk Dance. S, F.
Credits: 1
An opportunity to learn and participate in the traditional dances of a wide variety of cultures and countries. Occasionally a special type of dance is featured.

DAA 1500 Jazz Dance. F, S.
Credits: 1
A course presenting the technical and expressive characteristics of American jazz dance.

Physical Education Activities
Object Centered, Land

PEL 1041L Recreational Games. F, S.
Credits: 1
Basic skills of billiard games, table tennis and other recreational activities. Facility use fee required.

PEL 1111L Bowling I. F, S.
Credits: 1
An introductory course for the beginning bowler. Emphasis is on basic bowling techniques and scoring. Facility use fee required.

PEL 1121L Golf I. F, S.
Credits: 2
An introduction and analysis of the basic strokes in golf. Facility use fee required.

PEL 1141L Archery I. F, S.
Credits: 2
Basic target shooting techniques, various methods of aiming and safety are covered.

PEL 1166L Riflery. S, F.
Credits: 1
A beginning course in shooting a small bore rifle. Shooting positions, safety and care of the rifle are emphasized.

PEL 1211L Softball. F, S.
Credits: 2
Designed to teach basic skills and rules in softball.

PEL 1321L Volleyball I. F, S.
Credits: 1
Introduction to basic knowledge and skills with emphasis on play situations.

PEL 1322L Volleyball II. F, S.
Credits: 2; Prereq: Approval of instructor.
Advanced theory and skills related to team play.

PEL 1341L Tennis I. F, S.
Credits: 2
An introductory course for beginners and intermediates. Emphasis is placed on the forehand, backhand, and serve. Also, basic strategy using singles and doubles play.

PEL 1346L Badminton I. F, S.
Credits: 1
Introduction to basic knowledge and skills with emphasis on game situations.

PEL 1421L Handball I. F, S.
Credits: 1
Introduction and practice of basic techniques used in three-wall handball.

PEL 1423L Four Wall Handball. F, S.
Credits: 2
Advanced theory and practice with the use of the four walls in game situations.

PEL 1441L Racquetball I. F, S.
Credits: 1
Introduction and practice of basic techniques through drills and team play.

PEL 1511L Soccer I. F, S.
Credits: 2
An introduction to the fundamentals of ball handling, positions, rules, and training methods of soccer.

PEL 1521L Team Handball. F, S.
Credits: 1
Introduction to basic skills which are a combination of basketball and tag football using a regulation ball. A vigorous aerobic activity.

PEL 1541L Speedball. F, S.
Credits: 1
A course designed to utilize the skills of soccer, football and basketball. A vigorous aerobic activity.

PEL 1571L Lacrosse. F, S.
Credits: 1
An introduction to techniques, strategy, and rules of lacrosse. Training methods are included.

PEL 1621L Basketball I. F, S.
Credits: 1
Theory and practice of beginning basketball skills.

PEL 1622L Basketball II. F, S.
Credits: 2; Prereq: Beginning Basketball or advanced skill.
Theory and practice in intermediate and advanced basketball skills.

PEL 1646L Flag Football. F, S.
Credits: 1
Fundamentals and practice in touch football.

PEL 2112L Bowling II. F, S.
Credits: 2
Course for the intermediate bowler with emphasis on advanced bowling techniques. Facility use fee required

PEL 2122L Golf II. F, S.
Credits: 2
Advanced theory and practice in a golf play situation. Facility use fee required.

PEL 2142L Archery II. F, S.
Credits: 1
Advanced techniques of target archery theory and practical experience in purchasing and maintaining archery tackle.

PEL 2342L Tennis II. F, S.
Credits: 2; Prereq: PEL 1341 or instructor permission.
Advanced theory and practice.

PEL 2347L Badminton II. F, S.
Credits: 1; Prereq: PEL 1346 or instructor permission.
Advanced theory and practice in the skills of badminton.

PEL 2422L Handball II. F, S.
Credits: 1
Advanced theory and competition in the skills of three wall handball.

PEL 2442L Racquetball II. F, S.
Credits: 2; Prereq: PEL 1441 or instructor permission.
Advanced theory and practice with the use of four wall play.

PEL 2512L Soccer II. F, S.
Credits: 1
Covers strategy, conditioning, officiating, and coaching of soccer.

PEL 2930 Special Activities. F.
Credits: 1 to 3
Variable credit course consisting of special, current, or seasonal activities. May be repeated with a change of content without credit restrictions.

Physical Education Acts (General)
Performance Centered, Land

PEM 1012L Adapted Program. F, S.
Credits: 1; Prereq: Permission of instructor.
Fulfills special needs of individual students. Contents may include special sport and exercise programs, or individualized studies.

Descriptions

PHYSICAL EDUCATION — GENERAL

PEM 1100L Basic Concepts of Physical Education. F, S.
Credits: 2
Students will acquire knowledge and insights necessary for the development of a personal fitness program.

PEM 1102L Conditioning. F, S.
Credits: 2
A wide variety of activities designed to provide knowledge and improve body fitness through organized exercises, jogging and weight programs.

PEM 1121L Yoga for Exercise and Fitness. F, S.
Credits: 2
Emphasis is on Hatha Yoga movements and positions which contribute to flexibility, strength, and relaxation.††

PEM 1131L Weight Training I. F, S.
Credits: 2
Theory and practice in the development of individual weight training programs to develop and strengthen various parts of the body.

PEM 1146L Jogging. F, S.
Credits: 2
Planned programs in jogging and running to meet the individual needs of the novice, intermediate and advanced participant.

PEM 1147L Aerobic Dance, F, S.
Credits: 2
Activity designed to strengthen the heart, lungs and vascular system through a method of exercise and dancing to music.

PEM 1201L Gymnastics I. F, S.
Credits: 2
Basic tumbling, balance and apparatus stunts are presented and combined into routines.

PEM 1301L Track and Field. F, S.
Credits: 1
Technique and rules of all track and field events. Students participate in the events and direction of meets

PEM 1341 Skating Fundamentals. S.
Credits: 1
Introduction and practice of basic skills related to roller skating. Facility use fee required.

PEM 1351L Cycling. F, S.
Credits: 1
Emphasizes bike safety and rules of cycling, conditioning opportunities through cycling and an introduction to bike maintenance.

PEM 1421L Wrestling. F.
Credits: 1
Introduction to basic wrestling skills. Controlled participation at individual's skill level.

PEM 1431L Judo. F, S.
Credits: 1
An introduction to the techniques of judo, emphasizing principles of balance, leverage, and safety. History and protocol in martial arts are also stressed.

PEM 1441L Karate. F, S.
Credits: 1
An introduction to karate as an art, a sport, and for self defense. Control and direction of body forces, and responsibility are stressed. Heritage is studied.

PEM 1461L Fencing I. F, S.
Credits: 1
An introduction to foil fencing-protocol, techniques, and rules of competitive fencing

PEM 2132L Weight Training II. S.
Credits. 2
Advanced theory and practice in the development of individual training programs

PEM 2202L Gymnastics II. F, S.
Credits: 2
Advanced routines are developed in each of the Olympic events.

PEM 2405L Self Defense for Women. F, S.
Credits: 2
A lecture-laboratory course designed to prevent and deter forcible attacks; immediate decisions when confronted with assault; and the procedures necessary after an attack has occurred.

PEM 2462L Fencing II. F, S.
Credits: 2; Prereq: PEM 1461.
Includes sabre epee. Covers advanced competitive techniques, equipment care, and fencing as theatre art.

PEP 1330L Orienteering. F, S.
Credits: 2
Contour, map, and compass land navigation techniques are taught in a cross-country setting. Safety and care in the woods are covered. Course includes field trips.

Physical Education Acts (General) Water, Snow, Ice

PEN 1121L Swimming. F, S
Credits: 2
Instruction designed to meet the needs and interest of non-swimmers. Intermediate stroke techniques also emphasized.

PEN 1136C Skin and Scuba Diving I. F, S.
Credits: 2; Prereq: PEN 2113 or Instructor approval.
Lab fee and special equipment required. Basic scuba national certification awarded on satisfactory completion.

PEN 1151L Springboard Diving. F, S.
Credits: 1
Designed to teach the basic mechanics, principles, progression, safety and rules of diving as a competition event.

PEN 1171L Aquacises. F, S.
Credits: 1
Emphasis is placed on cardiovascular and respiratory fitness via a planned program of aquatic exercises.

PEN 1251L Canoeing. F, S.
Credits: 2; Prereq: Swim test.
An introduction to lake and river canoeing, covering strokes, equipment, weather and water conditions, safety, and canoe camping. Includes a field trip.

PEN 2113L Advanced Life Saving. F, S.
Credits: 2; Prereq: Swim test.
Designed to develop skills and knowledge necessary to swim safely and provide assistance to others. Successful completion of course meets requirements of the American Red Cross Advanced Life Saving Certification.

PEN 2122L Aerobic Swimming. F, S.
Credits: 2
A planned progressive swim program using lap swimming as a form of cardiovascular conditioning.

PEN 2135 Open Water Scuba Diving. F, S.
Credits: 1; Prereq or coreq: PEN 1136.
Introduces the certified scuba diver to compass navigation, open water diving environment, and dive preparations. Includes one or more field trips.

PEN 2141L Synchronized Swimming. F, S.
Credits: 1
An introductory course of aquatic skills and techniques developing self expression and creativeness through the aquatic medium

PEN 2231L Sailing. F, S.
Credits: 2, Prereq: Swim test.
A comprehensive introduction to small boat sailing, covering techniques, types of sailboats, weather and water conditions, safety, navigation, and rules of the road. Includes a field trip.

PEN 3137 Scuba Diving II. F, S.
Credits: 2; Prereq: PEN 1136
Topics include underwater navigation, night diving, site evaluation, dive planning, equipment, medical aspects, and search and survey. Field trip dives are conducted in Florida and other areas. Satisfactory completion leads to national certification in Advanced Scuba Diving

Physical Education Acts (Professional) Water, Snow, Ice

PEQ 2115 Water Safety Instructor. F, S.
Credits: 2; Prereq: PEN 2113
Designed to develop effective organizational and teaching techniques of swimming and water safety. Successful completion of course satisfies requirements for American Red Cross W.S.I. Certification.

PEQ 2126C Instructors of Swimming for the Handicapped. S.
Credits: 2; Prereq: PEQ 2115.
A lecture-laboratory course presenting teaching techniques for the instruction of the mentally retarded, emotionally disturbed, and orthopedically and/or health impaired individuals. Successful completion of course certifies one as an American Red Cross Instructor of Adapted Aquatics.

PEQ 3109 Aquatic Management. S.
Credits: 3
Prepares the individual to assume the responsibilities and leadership necessary to operate a swimming pool, lake front or beach swimming facility.

Physical Education Theory

PET 3251 Sport and Society. F, S.
Credits: 2
Societal implications of sport due to history and heritage, youth programs, collegiate and professional situations and the involvement of minority groups, women, business, and industry.

PET 3254 Women in Sports. F, S.
Credits: 2
Presents a broad perspective of the historical, sociological and physiological aspects of sport participation by females.

PROFESSIONAL PHYSICAL EDUCATION
College of Physical Education, Health, and Recreation

INSTRUCTIONAL STAFF 1981-82

Holyoak, O.I., Chairman; Allen, R.E.; Boyd, C.A.; Graham, M.E.; Hester, J.D.; Kaufmann, D.A.; Lerch, H.A.; Shields, D.A.; Siders, R.A.; Tennant, L.K.; Welch, P.D.; Whiddon, N.S.; Zauner, C.W.

The following members of the Division of Intercollegiate Athletics instruct in the Professional Physical Education program: Bergman, J., Blivens, L., DeMoss, M., Pell, C., Reese, R., Sloan, N., Towe, M., Tuten, R., Waters, W.

Dance Education

DAE 2320 Modern Dance Teaching Methods. F.
Credits: 3
Skills and teaching techniques.

DAE 2360 Folk, Social and Aerobic Dance Teaching Methods. F, S, SS.
Credits: 3
Skills and teaching techniques

DAE 3370 Rhythmic Activities and Movement Education, K-S. F.
Credits: 3; Prereq: Upper Division status or permission of the Chairman of the Department.
The teaching of rhythmic skills and dance movements for elementary school children.

Physical Education Acts (Professional) — Object Centered, Land

PEO 1011C Team Sports I Teaching Methods. S, SS.
Credits: 3; Prereq: PET 3590C or permission of the Chairman of the Department.
Skills and teaching techniques of softball, flag football and soccer with application of rules and techniques of officiating for each sport.

PEO 2031C Recreational Activities I Teaching Methods. F, SS.
Credits: 3; Prereq: PET 3590C or permission of the Chairman of the Department. Fee required for facilities.
Skills and teaching techniques: archery, bowling and golf.

PEO 2032C Recreational Activities II Teaching Methods. S, SS.
Credits: 3; Prereq: PET 3590C or permission of the Chairman of the Department.
Skills and teaching techniques: racquetball, badminton and tennis.

PEO 3041C Games and Sports for Elementary School Children. S.
Credits: 3; Prereq: Upper Division status or permission of the Chairman of the Department.
The teaching of sports and games in the elementary school physical education program.

PEO 3124C Coaching Golf. S.
Credits: 2
Types of play, strategy, practice organization, team selection, conduct of matches and tournaments and equipment.

PEO 3214C Coaching Softball. F.
Credits: 2
Systems of play, strategy, conditioning, practice organization, team selection, conduct of games and tournaments and equipment selection.

PEO 3219C Coaching Baseball. F.
Credits: 2
Strategy, conditioning, practice organization, team selection, conduct of games, and equipment selection.

PEO 3324C Coaching Volleyball. F.
Credits: 2
Systems of play, strategy, conditioning, team organization, conduct of matches and tournaments.

PEO 3344C Coaching Tennis. F.
Credits: 2
Strategy, conditioning, practice organization, team selection, conduct of matches and tournaments, and equipment selection.

PEO 3514C Coaching Soccer. F.
Credits: 2; Prereq: PEO 1511 or permission of the Chairman of the Department.
Systems of play, strategy, conditioning, team organization, conduct of games and tournaments.

PEO 3621C Team Sports II Teaching Methods. F, SS.
Credits: 3; Prereq: PET 3590C or permission of the Chairman of the Department.
Skills, rules, fundamentals of offensive and defensive basketball and volleyball strategy and teaching methods with application of rules and techniques of officiating for each sport.

PEO 3624C Coaching Basketball. S.
Credits: 2
Systems of play, strategy, conditioning, practice organization, team selection, conduct of games and equipment selection.

PEO 3644C Coaching Football. S.
Credits: 2
Fundamentals of offensive and defensive football, systems of play, strategy, scouting techniques, organization of practice, and rules interpretations.

Physical Education Acts (Professional)— Performance Centered, Land

PEP 1301C Track and Field Teaching Methods. F, SS.
Credits: 2
Skills and teaching techniques with application of rules and techniques of officiating.

PEP 2131 Weight Training and Conditioning. F, S, SS.
Credits: 2; Coreq: PET 3590.
Skills and teaching techniques for weight training and conditioning activities including calisthenics and jogging.

PEP 2201C Gymnastics Teaching Methods. F, S.
Credits: 2
Advanced skills and teaching techniques.

PEP 2401C Combative Teaching Methods. F.
Credits: 2
Skills, strategy, and techniques of teaching judo, and/or karate, and/or wrestling, and/or self defense.

PEP 3203C Educational Gymnastics for Elementary School Children. S.
Credits: 3; Prereq: Upper Division status or permission of the Chairman of the Department.
A study of the nature and teaching methods of educational gymnastics.

PEP 3204C Coaching Gymnastics. S.
Credits: 2
Methods of coaching gymnastics and the conduct of meets.

PEP 3304C Coaching Track and Field. F.
Credits: 2
Systems of play, strategy, conditioning, practice organization, team selection, and conduct of meets.

PEP 3424C Coaching Wrestling. S.
Credits: 2
Strategy, conditioning, practice organization, team selection, conduct of matches and tournaments and equipment selection.

Physical Educational Acts (Professional)— Water, Snow, Ice

PEQ 1121C Aquatics Teaching Methods. F, S, SS.
Credits: 2
Advanced skills, generic teaching techniques and basic aquatic management.

PEQ 2141C Coaching Synchronized Swimming. S.
Credits: 2
Individual; dual, and group techniques; composition and production.

PEQ 3108 Aquatic Administration. F.
Credits: 2; Coreq: PEQ 3108L; Prereq: PEQ 3109 or permission of the instructor.
Indepth study of aquatic administration in the public and private sector.

PEQ 3108L Swimming Pool Operators Certification. F.
Credits: 1; Coreq: PEQ 3108; Prereq: PEQ 3109 or permission of the instructor.
To educate individuals in the mechanical operations of swimming pools.

PEQ 3124C Coaching Swimming. F.
Credits: 2
Methods of coaching swimming and diving teams including the conduct of meets

PEQ 3161C Aquatic Games Teaching Methods. F.
Credits: 2; Prereq: PEQ 1121 or equivalent.
To provide the individual with an indepth understanding of the content and methods used to teach aquatic games. Including teaching and coaching techniques.

Physical Education Theory

PET 3127 American Physical Education and Sport. F, S.
Credits: 3; Prereq: Upper division status or permission of the Chairman of the Department.
The development of sport and physical education in the United States from Colonial America to the present. Basic interpretation is made related to the position of Physical Education in American Society.

PET 3202 Foundations and Principles of Coaching. S, SS.
Credits: 2; Prereq: Upper division status or permission of the Chairman of the Department.
Introduction to the foundations and principles of coaching in athletics. Topics include individual differences, motivational dimensions, sport as a social phenomenon, factors affecting performance and current research trends.

PET 3230C Skill Acquisition and Motor Development. F, S.
Credits: 3; Prereq: Upper division status or permission of the Chairman of the Department.
This course is designed to provide background for understanding, analyzing and teaching skills relating to sports and dance. Attention is given to specific aspects of psychomotor developments and theoretical models of skill acquisition.

PET 3320 Applied Human Anatomy. F, S, SS.
Credits: 2; Coreq: PET 3320L.
Study of the human body from a health standpoint. Designed to meet the needs of physical educators, health educators, recreation therapists, and other disciplines interested in the anatomy of the human body.

PET 3320L Applied Anatomy Lab. F, S, SS.
Credits: 1; Coreq: PET 3320.

PET 3340C Kinesiology of Motor Skills. S, SS.
Credits: 2; Prereq: PET 3320, PHY 2004 or permission of the Chairman of the Department.
Fundamentals of statics, kinematics and kinetics related to sports and dance skills. Laboratory experience in biomechanical research, cinematography and film analysis.

PET 3350 Applied Human Physiology. F, S, SS.
Credits: 2; Coreq: PET 3350L; Prereq: PET 3320.
Study of the normal function of the human body as related to the fields of physical education, health education, recreation therapy and other related disciplines.

PET 3350L Applied Physiology Lab. F, S, SS.
Credits: 1; Coreq: PET 3350.

PET 3360C Physiology of Exercise and Training. F, S.
Credits: 2; Prereq: PET 3350 or permission of the Chairman of the Department.
Effects of physical exercise and athletic training on human function and structure.

PET 3461C Physical Education in the Elementary School. F, S.
Credits: 3; Prereq: Upper Division status or permission of the Chairman of the Department.
Organization and conduct of physical education activities for the elementary school. PET 3462C is designed for students majoring in elementary education who have access to children in a group or school situation. Practical field experience to be arranged.

PET 3462C Elementary School Physical Education for the Classroom Teacher. F, S, SS.
Credits: 2††; Prereq: Upper Division status or permission of the Chairman of the Department.
The course is designed to prepare the classroom teacher in the conduct of physical education for children grades K-6.

††Grading is on S-U basis only.

PET 3590C Professional Seminar in Physical Education. F, S, SS.
Credits: 2; Prereq: Upper Division status or permission of the Chairman of the Department.
The student's organic fitness, body composition, psychomotor, cognitive proficencies related to physical education activities will be assessed. In addition, reading and writing deficiencies will be identified and a remedial program will be prescribed. The student also must provide evidence of professional involvement. Field experience to be arranged.

PET 3640C Physical Education for the Handicapped. F, S.
Credits: 3; Prereq: PET 3320C or equivalent.
The program of physical education as applied to individuals with physical and other handicapping conditions. Includes physical descriptions of disabilities, care of a handicapped person, psychosocial implications, and other pertinent aspects of growth and development that affect atypical individuals. Supervised lab experiences working with the handicapped will be arranged.

PET 4413 Administration of Athletics. S.
Credits: 2; Upper Division status or permission of the Chairman of the Department.
Problems in administering athletic programs.

PET 4415 Administration of Physical Education. F, S.
Credits: 2
Fundamental principles of developing, administering, and supervising public school programs of physical education including intramurals.

PET 4442C Physical Education in the Secondary School. F, S.
Credits: 3; Prereq: EDE 4203-ESE 4011.
Limited to physical education majors in the term prior to student teaching. Materials, content, and techniques in teaching physical education in the secondary school. Includes field experience in local schools.

PET 4510C Measurement and Evaluation with Lab. S.
Credits: 3
Techniques in objective measurement and evaluation of physical fitness, motor skills, motor ability, nutritional status, and other activity related problems. Test construction and grading techniques. Supervised lab experiences in test administration to be arranged.

PET 4622C Prevention and Care of Athletic Injuries. F, S.
Credits: 3; Prereq: PET 3320, PET 3320L, PET 3350, PET 3350L or equivalent.
Prevention of athletic injuries, including protective equipment, safe facilities, and proper supervision of practice and contests. Recognition, referral and follow-up of injuries in athletics. Legal implications of athletic training. Current taping techniques and therapeutic modalities.

PET 4905C Directed Independent Study. F, S, SS.
Credits: 1 to 5, max. 5 per semester; Prereq: Permission of Chairman of the Department.
Offered upon request of students to meet special interests which are not adequately provided for in other courses.

PET 4943C Practicum in Coaching. F, S, SS.
Credits: 2 to 6; Permission of the Chairman of the Department.
Supervised experience in coaching.

PET 4948C Practicum in Physical Education. F, S, SS.
Credits: 1 to 10; Prereq: Permission of the Chairman of the Department.
Practical experience in such specialty areas as adult fitness programs, health clubs, exercise testing laboratories, clinical laboratories and athletic training rooms. May include senior thesis with oral defense.

††Grading is on S-U basis only.

GRADUATE COURSES

Health, Leisure and Physical Education

HLP 6323 Evaluation Procedures in Health Education
Credits: 3

HLP 6345 Research Methods in Health Education, Physical Education, and Recreation. F.
Credits: 3

Physical Education Theory

PET 5936 Current Topics.
Credits: 1 to 5

PET 6015 Interpretations of Physical Education.
Credits: 3

PET 6129 Historical Perspectives of Sport.
Credits: 3

PET 6145 Problems in Physical Education.
Credits: 3

PET 6235C Nature and Bases of Motor Performance.
Credits: 3

PET 6346C Biomechanics in Human Motion.
Credits: 3

PET 6365C Physiological Bases of Physical Education.
Credits: 3

PET 6368L Practicum in Exercise Physiology.
Credits: 3

PET 6416 Problems in the Administration of Athletics.
Credits: 3

PET 6425 The Physical Education Curriculum.
Credits: 3

PET 6445 The College Physical Education Program.
Credits: 3

PET 6905 Directed Independent Study.
Credits: 1 to 5. May be repeated with change of content to a maximum of 10 credits.

PET 6910L Supervised Research.
Credits: 1 to 5††

PET 6925C Workshop Series in Physical Education.
Credits: 1 to 10

PET 6932 Seminar in Physical Education.
Credits: 1 to 3; May be repeated with change of content.

PET 6940L Supervised Teaching.
Credits: 1 to 5††

PET 6971L Master's Research.
Credits: 1 to 15††

THE PHYSICAL SCIENCES

College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Pirkle, E.C., Director; Abbott, E.F.; Broyles, A.A.; Dunkle, J.R.; Dunnam, F.E.; Eoff, K.M.; Gregory, F.; Henry, J.A.; Leacock, R.J.; Lindquist, R.C.; Marcus, R.B.; Olsson, C.N.; Omer, G.C.; Peterson, L.R.; Roberts, L.H.; Schaeper, H.R.A.; Spurlock, C.W.

The following courses are offered through the Department of Geography. The courses are designed to provide the student who may not take further work in physical sciences with an insight into how science has developed and with an understanding of basic phenomena which together make up the physical setting for human society and which have a direct bearing on the development of human society.

The following courses constitute recommended sequences:
PSC 2501, PSC 2121
PSC 2501, PSC 2900
PSC 2501, PSC 3402
ISC 2400, ISC 2401

Interdisciplinary Natural Science

ISC 2400 Fundamentals of Physical Science. F.
Credits: 3
The first quarter of the ISC 2400-2401-2402 sequence. Topics covered in this sequence of courses are from physics, chemistry, geology and astronomy and are selected to show the interrelations of these sciences. The nature and structure of scientific knowledge is emphasized. ISC 2400 topics include mechanics, Newtonian system, macroscopic properties of matter, energy, electricity and magnetism, and atomic structure.

ISC 2401 Fundamentals of Physical Science. S.
Credits: 3; Prereq: ISC 2400.
Continuation of ISC 2400. Applications of atomic structure to chemistry, also the chemical bond, chemical calculations, types of chemical reactions, and selected topics from organic chemistry.

ISC 2402 Fundamentals of Physical Sciences. S.
Credits: 3; Prereq: ISC 2400 and 2401.
Continuation of ISC 2400 and 2401. Selected topics from geology and astronomy; earth materials, processes shaping the earth, structure of the earth, paleonotology, the solar system, evolution and properties of stars, and evolution and structure of the universe.

ISC 2452 Man's Interactions with the Physical Environment. F, S, SS.
Credits: 3
Whereas PSC 2501 treats the factors of the physical environment which have influenced the development of civilizations, this course considers the impact that man is now having on the physical environment.

ISC 2453 Physical Science: Energy and Society. F.
Credits: 3
A study of energy, its sources and utilization, the interconversion of the forms of energy, the circumstances which have led to energy shortages, the political and social effects of the energy crisis, and the outlook for the future.

ISC 3455 Water and Society. S.
Credits: 3
This course introduces some of the basic considerations of water as a part of society's resource base. The course includes properties of water, the hydrologic cycle, available supply, distribution of supply, water uses, management strategies, water quality, and water problems of the future.

Physical Sciences

PSC 1420 The Physical Sciences.
Credits: 3
Content consistent with the goals of PSC 2121. Admission by invitation.

PSC 1502 The Physical Sciences. S.
Credits: 3
Content consistent with the goals of PSC 2501. Admission by invitation.

PSC 1510 The Physical Sciences. F.
Credits: 3
Content consistent with the goals of ISC 2452. Admission by invitation.

PSC 2121 Natural Regions. F, S, SS.
Credits: 3; (No prerequisites.)
A study of the natural regions of the United States, including the origin of physiographic features and the origin and occurrences of natural resources.

PSC 2191L Laboratory in the Physical Sciences.
Credits: 1; Coreq: or Prereq: any single semester of PSC or ISC.
A laboratory inculcating scientific methods of investigations and using selected concepts in the Physical Sciences.

PSC 2501 Our Environment. F, S, SS.
Credits: 3
This course integrates materials from astronomy, meteorology, climatology, geology and physical geography in considering those factors of the physical environment which influence civilization.

PSC 2701 The Scientific Basis of Technology. S, SS.
Credits: 3; (No prerequisites.)
Scientific principles underlying modern technology, consideration of the nature of matter and energy, the relationship between the properties of matter and its structure, the conversion of energy resources into useful work, and problems associated with population growth and technology.

PSC 2900 Men and Concepts. F, S.
Credits: 3
How concepts in science develop shown through the use of case studies taken from the historical development of planetary astronomy and mechanics. Readings, some of them original scientific writings, illustrate the ideas of such men as Ptolemy, Copernicus, Kepler, Galileo and Newton. Emphasis is on how science works rather than explanations of what science knows.

PSC 2936 The Physical Sciences: Special Topics. When needed.
Credits: 3
Topics and problems for individual and small group investigation; techniques of research, documentation, reports, critiques.

PSC 3402 Space and Society. S.
Credits: 3
This course considers the extent of man's exploration of the environment of extraterrestrial space. The present uses of the environment of space are stressed, and the possible future endeavors of man in this new environment are explored.

PSC 3901 Men and Concepts II. S.
Credits: 3
How concepts in science evolve as shown through case studies taken from historical developments in physics and chemistry since the time of Newton. Readings, some of which are original scientific writings, are taken to show the development of the chemical atom, the law of conservation of energy, relativity, quantum mechanics, and nuclear energy.

PHYSICAL THERAPY
College of Health Related Professions

INSTRUCTIONAL STAFF 1981-82

Gould, W.R., Chairman; Carlos, J., Jr.; Day, J.A.; Finley, M.C.; Fisher, N.P.; Holmes, T.M.; Wroe, M.C.

PHT 3001 Introduction to Physical Therapy. F.
Credits: 2; Coreq: PHT 3100 or permission of instructor.
Current trends in physical therapy and health care in relation to medical practice. Introduction to patient care and community facilities.

PHT 3100C Basic Anatomy and Kinesiology. F.
Credits: 4; Coreq: PHT 3001 or permission of the instructor.
The macroscopic structures and function of the human body with emphasis on neuromuscular and musculoskeletal systems.

PHT 3160C Neuroscience. S.
Credits: 3; Prereq: PHT 3100.
Structure of the human nervous system with emphasis on clinically related function and dysfunction of the system.

PHT 3213C Clinical Science I: Basic Skills. F.
Credits: 3; Coreq: PHT 3100.
Basic principles designed to develop skill in the analysis of physical disability and the application of exercises, gait, functional activity training and massage as treatment procedures.

PHT 3214C Clinical Science II: Evaluation. S.
Credits: 4; Prereq: PHT 3213.
Basic principles designed to develop student's skill in specific evaluation and measurement techniques of musculoskeletal and neurological problems. Special reflexes and the inter-relationships of stages of motor development are assessed from birth to geriatric patients.

PHT 3215L Physical Modalities I. F.
Credits: 1; Coreq: PHT 3100 and APB 3203 or equivalent.
Principles and techniques of evaluation and treatment of pathological conditions with superficial thermotherapy and cryotherapy procedures. Problem solving approach to patient treatment planning.

PHT 3216L Physical Modalities II. S.
Credits: 2; Prereq: PHT 3215.
Principles and techniques of evaluation and treatment of pathological conditions with deep thermotherapy and electrotherapy procedures.

PHT 3801L Clinical Practicum I. S.
Credits: 1††; Prereq: PHT 3213.
Supervised practical experience designed to parallel classroom skills learned during the junior year.

PHT 4111L Anatomy Dissection. F.
Credits: 3; Prereq: PHT 3100.
Intensive laboratory study of human anatomy with emphasis on the neuro-musculo-skeletal systems.

PHT 4155C Exercise Physiology. F.
Credits: 2; Prereq: APB 3203 or equivalent.
Emphasis on cardiovascular, respiratory, and musculoskeletal systems' response to exercise in normal and pathological conditions.

PHT 4234C Therapeutic Exercise 1. F.
Credits: 4; Prereq: PHT 3213 and 3214.
Principles and utilization of equipment and exercise related to the physically disabled.

PHT 4235C Therapeutic Exercise 2. S.
Credits: 4; Prereq: PHT 4234.
Continuation of content of PHT 4234.

PHT 4500 Community Health. S.
Credits: 2; Prereq: PHT 3001.
Roles and functions of physical therapists in community health. History and current trends in provision of health care in the U.S. Levels and systems for the delivery of services. Employment practices in physical therapy.

PHT 4822 Clinical Practicum II. F.
Credits: 2††; Prereq: PHT 3801.
A clinical practicum experience providing students with the opportunity for supervised work in clinical settings.

PHT 4823 Clinical Practicum III. S.
Credits: 2††; Prereq: PHT 4822.
Continuation of PHT 4822.

PHT 4824 Internship 1. S.
Credits: 2††; Prereq: PHT 4823.
Supervised field work experience in facilities approved by the department.

PHT 4825 Internship 2. SS.
Credits: 12††; Prereq: PHT 4824.
Continuation of field work experience of PHT 4824.

PHT 4910C Scientific Inquiry 1. S.
Credits: 1; Prereq: PHT 3215.
Introduction to basic concepts and techniques in research related to Physical Therapy.

PHT 4911L Scientific Inquiry 2. F.
Credits: 1; Prereq: PHT 4910.
Continuation of content in PHT 4910.

PHT 4930 Senior Seminar. S.
Credits: 3; Coreq: PHT 4500.
Effective communication and management procedures; program planning and problem solving in patient services.

PHYSICIAN'S ASSISTANT PROGRAM
College of Medicine

The P.A. program is being discontinued. No new students have been admitted since the 1981 Fall term.

PAS 4004 Infectious Disease.
Credits: 3 to 5
A four-week rotation surveying the findings and effects of numerous pathogenic bacteria and fungi as they relate to infectious disease processes. The student is actively involved in an in-service rotation, primarily a consulting service. The student is required to perform a complete history and physical examination on the patient and is further required to correlate laboratory findings with the clinical manifestations of the infectious disease. The student is further introduced to the manifestations of the illnesses and the rationale for therapy. May be repeated with change of topic with department approval.

PAS 4040 Emergency Room.
Credits: 3 to 5
The students are introduced to the busy emergency rooms of the major medical centers. They are exposed to the acutely ill and traumatized patients. The students learn to perform appropriate history and physical examinations on the acutely ill patient. Emphasis is placed on management and support measures of situations which are life-threatening. May be repeated with change of topic with department approval.

PAS 4042 Student Health.
Credits: 3 to 5
This four-week rotation is provided to the student who desires additional exposure to a clinical setting. The student will perform history and physical examinations and will have a further opportunity to be exposed to the illnesses and injuries common to the university students. May be repeated with change of topic with department approval.

PAS 4044 Public Health.
Credits: 3 to 5
The student will spend four weeks in a public health department where he/she will be exposed to and participate in a wide variety of common public health problems. The student will learn how a public health department works and what services are generally available. The P.A. student will participate in nutrition counseling, family planning, environmental health studies, V.D. screening and reporting of communicable diseases. The emphasis of this rotation will be to expose the student to the practice of medicine in a public health department. May be repeated with change of topic with department approval.

PAS 4100 General Medicine.
Credits: 3 to 5
A four-week rotation in which the student learns basic medical knowledge. The student is exposed to the common medical problems encountered on the in-patient medical service. The emphasis is on the history and physical examination as well as the processes required in the proper work-up and

††Grading is on S-U basis only.

management of a patient. Opportunity is also available for the student to perform the usual ward therapeutic procedures May be repeated with change of topic with department approval.

PAS 4105 Rehabilitative Medicine.
Credits: 3 to 5
The student will spend four weeks in an institution which deals primarily with the rehabilitation of the spinal cord or stroke patients. The student will share time with the physical therapy department, learning the various techniques utilized on the disabled patient. The student is involved in the entire management and discharge planning of the patient requiring some type of continual custodial care. Exposure is also given to the various community services and agencies available to the patient in the rehabilitative centers. May be repeated with change of topic with department approval.

PAS 4110 Hematology/Oncology.
Credits: 3 to 5
During this four-week rotation the student performs a peripheral blood differential of white cells. The student further learns the principles of blood transfusions and the steps in management of untoward reactions to whole blood therapy. The student is introduced to procedures such as bone marrow aspiration and bone marrow biopsies. The student further demonstrates the ability to correlate the history and physical examination with the common hematologic problems normally seen on the hematology service. May be repeated with change of topic with department approval.

PAS 4115 Cardiology.
Credits: 3 to 5
The cardiology rotation is of four weeks duration and designed to introduce the student to the basic cardiac abnormalities. The student is introduced to the EKG and the interpretation of both normal and abnormal tracings. The student is also exposed to the coronary care unit and its functions. The methods of performing necessary diagnostic procedures for the evaluation of disorders of the cardiovascular system are also studied. May be repeated with change of topic with department approval.

PAS 4120 Neurology.
Credits: 3 to 5
This four-week rotation introduces the student to the common in-patient and out-patient neurologic disorders. The student emphasizes the complete neurologic history and physical examination and the techniques used on the service. The student is further introduced to the diagnostic and therapeutic procedures unique to the neurologic service. May be repeated with change of topic with department approval.

PAS 4125 Psychiatry.
Credits: 3 to 5
During this four-week rotation, the student is introduced to patients admitted to the psychiatry service. The student participates in daily rounds and learns the proper use of various medications for various psychiatric disorders. Group therapy sessions are a major part of the student's learning experience. May be repeated with change of topic with department approval.

PAS 4130 Urology.
Credits: 3 to 5
The urologic rotation is a four-week rotation which deals with both in-patients and out-patients. Emphasis is placed on the indications as well as side effects of the various diagnostic and therapeutic procedures unique to the urologic service. The student is also provided exposure to the pre- and post-operative care of the urologic patient. May be repeated with change of topic with department approval.

PAS 4140 Otolaryngology.
Credits: 3 to 5
This is a four-week clinical rotation. The student is introduced to the otolaryngology clinic and the patients most commonly seen in that clinic. Emphasis is placed on the common ear problems and the common throat problems seen in the rural areas. The student receives careful instruction in the proper use of the appropriate instruments. May be repeated with change of topic with department approval.

PAS 4150 Nephrology.
Credits: 3 to 5
During this four-week rotation, the student is asked to perform history and physical examinations on those patients with common nephrological problems. The student is introduced to the hemodialysis procedures and machinery. The student is further introduced to the principles of peritoneal dialysis. May be repeated with change of topic with department approval.

PAS 4160 Gastroenterology.
Credits: 3 to 5
This four-week rotation deals primarily with the diagnosis, pathophysiology and essentials of therapy of various gastroenterologic problems. The student learns to perform and interpret both nasogastric intubation and gastric analysis. Instruction in secretin tests, small bowel biopsies, proctosigmoidoscopies and gastroscopies is provided. The student is further instructed in the correlation of the results of the various diagnostic procedures with the clinical course of the patient. May be repeated with change of topic with department approval.

PAS 4170 Rheumatology.
Credits: 3 to 5
A four-week rotation providing an in-depth exposure to rheumatologic disease. Students learn therapeutic techniques specifically related to the rheumatologic patient. Emphasis is placed on the history and physical examination on a consulting service. May be repeated with change of topic with department approval.

PAS 4180 Pulmonology.
Credits: 3 to 5
This four-week rotation will expose the student to the common presenting problems of the pulmonary patient. The student will increase his/her skills in the performance of histories and physical examinations with emphasis on the respiratory system. The student will gain specific knowledge in procedures such as pulmonary functions, inhalation therapy, arterial punctures, and the interpretation of chest roentgenograms. The student will develop an understanding of the basic pulmonary diseases, their diagnosis, treatment, and complications. May be repeated with change of topic with department approval.

PAS 4185 Gerontology.
Credits: 3 to 5
The student will become familiar with the common physical and psychological problems encountered by the geriatric patient in this four week rotation. Increased exposure to common medical problems will be presented to include cardiac and respiratory insufficiencies, urinary tract infections, strokes, diabetes mellitus and other diseases common to the elderly. In addition, the student will improve his/her skills in presenting case presentations and clinical research, as well as approaching the rehabilitation of the aged in a team approach. May be repeated with change of topic with department approval.

PAS 4190 Dermatology.
Credits: 3 to 5
The student will spend four weeks in the private practice of dermatology with his/her physician supervisor. The student will gain an understanding of common dermatological disease, its pathophysiology, diagnosis, management and complications. The student will develop skills in performing common dermatological diagnostic studies, including KOH slides, skin biopsies, etc. May be repeated with change of topic with department approval.

PAS 4200 General Surgery.
Credits: 3 to 5
A four-week rotation exposing the student to a variety of clinical problems, routinely seen on the surgical services. Emphasis is placed on pre-operative and post-operative management of the patient. Aseptic technique and operating room principles are emphasized. Management of the surgical patient, both in the operating room and on the ward are basic on this rotation. May be repeated with change of topic with department approval.

PAS 4220 Plastic Surgery.
Credits: 3 to 5
A four-week rotation primarily designed to instruct the student in basic wound care. Also emphasized is surgical repair and management of the simple laceration. Some operating room exposure is available for the more extensive care and repair of wounds. Exposure to burns and burn treatment is also provided. May be repeated with change of topic with department approval.

PAS 4240 Orthopedic Surgery.
Credits: 3 to 5
A four-week rotation providing exposure to the emergency room orthopedic patient as well as pre-operative and post-operative care of the surgical patient. In-hospital management as well as out-patient management of the orthopedic patient is emphasized. The student receives instruction in traction, splinting and casting techniques. The student is also given a broad background in more extensive orthopedic repairs in the operating room. May be repeated with change of topic with department approval.

PAS 4260 Neurosurgery.
Credits: 3 to 5
During this four-week rotation, the student is taught an understanding of the problems unique in the diagnosis, treatment and management of the neurosurgical patient. The student gains experience in the operating room and further gains a working knowledge of the diagnostic techniques utilized and unique to the neurosurgical services. May be repeated with change of topic with department approval.

PAS 4300 Pediatrics.
Credits: 3 to 5
This general pediatric rotation is of four weeks duration and is designed to introduce the student to the childhood illnesses and normal variations of growth and development. The student is encouraged to seek out third party histories and perform pediatric physical examinations. The student is further introduced to the newborn nursery as well as pediatric out-patient clinics and emergency rooms. May be repeated with change of topic with department approval.

PAS 4305 Pediatrics, Genetics and Metabolism.
Credits: 3 to 5
During his four-week rotation, the student is exposed to pediatric patients with either genetic or metabolic disorders. The student is required to complete PAS 4300, General Pediatrics, prior to this rotation. The student gains expertise in following the genetic lines of a pediatric patient. The student is also exposed to the common metabolic problems seen most often on the service. May be repeated with change of topic with department approval.

PAS 4320 Obstetrics and Gynecology.
Credits: 3 to 5
This four-week rotation is designed to introduce the student to the obstetrical service, the management of pregnancy, labor and delivery. It is further designed to introduce the student to pre- and post-natal complications. The rotation is also designed to introduce the student to the common gynecological problems and management of common female abnormalities. May be repeated with change of topic with department approval.

PAS 4400 Family Practice.
Credits: 3 to 5
This four-week rotation is designed to introduce the student to the family practice setting and the interpersonal relationships developed in that setting. The student is exposed to the family practice type patient and other members of the family unit. The student is exposed to the common diseases treated by the primary care practitioner and is further exposed to other members of the health care team. May be repeated with change of topic with department approval.

PAS 4420 Elective.
Credits: 3 to 5
A four-week rotation primarily in a community based private practitioner's office. It is designed to introduce the student to the community setting. The student will make rounds with the physician and assist him in his office practice. Preferably, this elective would be in a rural setting with a physician who is seeking to employ a physician assistant. May be repeated with change of topic with department approval.

PHYSICS
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Hooper, C.F., Jr., Chairman; Adams, E.D.; Bailey, T.L.; Ballard, S.S.; Brookeman, J.R.; Broyles, A.A.; Buchler, J-R.; Coldwell, R.L.; Curtright, T.L.; Dufty, J.W.; Dunnam, F.E.; Field, R.D.,; Flowers, J.W.; Garrett, R.E.; Green, A.E.S.; Hanson, H.P.; Ihas, G.G.; Ipser, J.R.; Kumar, P.; Löwdin, P.-O.; Micha, D.A.; Monkhorst, H.J.; Nevis, A.H.; Pepinsky, R.; Peterson, L.R.; Ramond, P.; Sabin, J.R.; Sikivie, P.; Taylor, K.E.; Thomas, B.S.; Thorn, C.B.; Tobey, F.L.; Trickey, S.B.; Van Rinsvelt, H.A.

Students planning on an undergraduate major in physics should consult the departmental major advisers, Drs. B.S. Thomas or L.R. Peterson, Room 266 or 270 Williamson Hall. In preparation for this major program, the student should take the following courses in his Freshman and Sophomore years: MAC 3311-3312-3313; MAP 3302; PHY 2048-2048L-2049-2049L; PHS 2102-2103; General CHM through 2043C; GER 1120-1121-1122 (or the accelerated schedule of 1129-1130) or equivalent in French or Russian. The complete program, which includes a minimum of 34 credits in physics, will be selected under the guidance of the major adviser. For additional information, see College of Liberal Arts and Sciences entrance requirements.

Any physics major with an overall 3.5 or higher grade point average in a minimum of 16 credit hours of physics courses attempted may apply for the Departmental Honors Program in physics. Application should be made to the departmental adviser. Upon acceptance to the program the student will be assigned a supervisory committee composed of two faculty which will recommend a program for the student which shall include the following minimum requirements: two physics courses selected from the 5000 level (or 4 equivalent credits in PHY 4905, excluding laboratories); 2 semesters (no less than a total of 3 credit hours) of PHY 4910L research; and 2 semesters of PHY 4930, preferably taken concurrently with PHY 4905 or 4910L. Award of Departmental Honors in physics will be made upon: completion of the approved curriculum, including the honors course requirements, with an overall 3.5 or higher grade point average in all physics courses attempted; and recommendation for honors by the student's supervisory committee, based in part on a final written report and oral presentation of the student's research in PHY 4905 or 4910L.

Physics

General Physics Courses: There are four course sequences in general physics. PHY 2004-2005 and the corresponding laboratory PHY 2004L is a two term sequence emphasizing the practical applications of basic physics to a wide range of professions including architecture, agricultural sciences, building construction, forest resources, and health related professions.

PHY 2048-2049 and the corresponding laboratory sequence PHY 2048L-2049L are intended for all physical science and engineering majors and are open to all students who are taking or will take the calculus sequence through MAP 3302. PHS 2102-2103 are one credit discussion sections in PHY 2048-2049, respectively. These courses are required of all majors and are strongly recommended for all other students.

PHY 2053-2054 and the corresponding laboratory sequence PHY 2053L-2054L are intended primarily for students not majoring in a physical science or an engineering field. These courses are usually taken by preprofessional students (premedical, pre-dental, etc.), especially those who have either not taken calculus or who do not plan to take the complete calculus sequence.

PHY 2060C-2061C constitute the honors sequence in general physics. Each course consists of lectures augmented with associated discussion and laboratory sessions. Enrollment is by invitation or special permission only; interested students are invited to contact one of the departmental advisers for more details.

PHY 2001 Introduction to Principles of Physics. S.
Credits: 3; Prereq: High school algebra or equivalent.
The course introduces fundamental principles of physics in mechanics, electricity, and modern physics as applied to conservation laws — energy, momentum, etc. An in-depth analysis of several selected topics with lecture demonstrations, films and other teaching aids

PHY 2004 Applied Physics 1. F.
Credits: 3; Prereq: One term of college mathematics.
Emphasizes the practical applications of basic physics to a wide range of professions including architecture, agricultural sciences, building construction, forest resources, and health related professions. Mostly mechanics of motion, forces, energy, momentum and wave motion.

PHY 2004L Laboratory for PHY 2004 and 2005. F, S.
Credits: 1; Prereq: PHY 2004 or Coreq PHY 2005.

PHY 2005 Applied Physics 2. S.
Credits: 3; Prereq: PHY 2004
Continuation of the sequence. Electric and magnetic fields. Geometrical, wave and applied optics. Modern and nuclear physics.

PHY 2037 Physics for Skeptics. F, S, SS.
Credits: 3; Prereq: High school algebra or equivalent
Directed to those who think that physics is a fearsome thing. Will utilize a minimum of mathematics to discuss basic ideas of modern physics, interpretation versus observation, aesthetic choice in physical theories, theories as games, and the implications of the modern view of nature. Includes demonstrations and class discussion. Not available for undergraduate major credit

PHY 2037L Laboratory for PHY 2037. F, S, SS.
Credits: 1; Prereq: High school algebra or equivalent.
The format is in keeping with the spirit and philosophy of PHY 2037. Experiments are open ended, do not follow a "cookbook" procedure, can be performed by anyone with some imagination and initiative, and include modern instruments such as a gas laser. Not available for undergraduate major credit.

PHY 2048 General Physics with Calculus 1. F, S.
Credits: 3, Prereq: MAC 3311; Coreq. MAC 3312 and PHY 2048L.
Mechanics: statics and kinematics, work, momentum, energy and power, conservation laws, rotational and harmonic motion. Heat and thermodynamics, and kinetic theory of gases.

PHY 2048L Laboratory for PHY 2048. F, S, SS.
Credits: 1; Coreq: PHY 2048.

PHY 2049 General Physics with Calculus 2. F, S, SS.
Credits. 3; Prereq: PHY 2048; Coreq: MAP 3302 and PHY 2049L
Electrostatics: fields and potentials, electromotive force, circuits, electromagnetism, capacitance and inductance; magnetic properties of matter; electromagnetic radiation; wave motion and sound; geometrical, physical and quantum optics.

PHY 2049L Laboratory for PHY 2049. F, S, SS.
Credits. 1; Corereq: PHY 2049.

PHY 2053 General Physics 1. F, S, SS.
Credits: 4; Prereq: MAC 1132 or equivalent; Coreq: PHY 2053L.
Structure and properties of matter; kinematics, dynamics and statics; momentum and energy; rotation, elasticity; vibration; fluids; temperature and expansion, heat transfer, thermal behavior of gases; wave motion and sound.

PHY 2053L Laboratory for PHY 2053. F, S, SS.
Credits: 1; Coreq: PHY 2053.

PHY 2054 General Physics 2. F, S, SS.
Credits: 4; Prereq: PHY 2053; Coreq: 2054L.
Electric charge, fields and circuits; electromagnetism applied electricity; geometrical optics, wave optics, applied optics; electrons and photons; atoms and nuclei.

PHY 2054L Laboratory for PHY 2054. F, S, SS.
Credits: 1; Coreq: PHY 2054.

PHY 2060C General Physics Honors 1. F, S.
Credits: 5, Prereq: MAC 3311; Coreq: MAC 3312.
First course of the sequence PHY 2060-2061. Topics are similar to those of PHY 2048-2049, but in considerably more depth, with more individual instruction in the accompanying laboratory and discussion sections. Enrollment is by invitation or special permission only.

PHY 2061C General Physics Honors 2. F, S.
Credits: 5; Prereq. PHY 2060C or special permission of the Physics Department; Coreq: MAP 3302. Second semester of the *PHY 2060-2061* sequence.

PHY 3018 The Physics of Photography. F, S.
Credits: 3
A popular-level survey of the physical basis of photography. The nature of light and color, the way lenses work; how films respond to light; Polaroid process; color photography. Illustrated by numerous applications. The use of mathematics is restricted to simple algebra.

PHY 3036. Frontiers of Science. F, S.
Credits. 1
Lectures by outstanding visiting scientists on topics of current interest. Discussions will include the social and environmental aspects of modern science and technology. Open to any student with an interest in the relevance of scientific thought and the scientific method of present-day life. May be repeated once.

PHY 3123 Modern Physics 1. F, S, SS.
Credits. 3, Prereq. One year of college physics and calculus.
Includes atomic physics, relativity, theory of the solid state, basic concepts of quantum mechanics

PHY 3221 Mechanics 1. F.
Credits. 3, Prereq. One year of college physics and calculus
First part of two-semester sequence PHY 3221-4222. Particle mechanics in one, two and three dimensions; oscillations and waves, systems of particles

PHY 3321 Electromagnetism 1. F.
Credits: 3, Prereq. One year of college physics and calculus
First part of the sequence PHY 3321-4322. Static electric and magnetic fields, electric circuits

Maxwell's equations, propagation of electromagnetic waves and radiation.

PHY 3400 Light, Color, and Holography. F, S.
Credits: 3; Prereq: None.
Demonstrations and discussions of commonly observed phenomena of light, color, and vision such as rainbows, sunsets, the blue sky, and perceptual illusions. A study of the principles of holography followed by observing the filming of a holograph.

PHY 3400L Holography Laboratory. S.
Credits: 2; Prereq: PHY 3400 or consent of instructor.
A laboratory course in holography in which students will make several white-light holographs.

PHY 3422 Optics 1. F.
Credits: 3; Prereq: One year of college physics and calculus.
The phenomena of reflection, refraction, dispersion, interference, diffraction, and polarization of light.

PHY 3521 Fundamentals of Statistical Physics 1. F.
Credits: 3; Prereq: PHY 3604.
First part of the sequence PHY 3521-4522. Introduction to thermodynamics, statistical mechanics and kinetic theory.

PHY 3604 Introductory Quantum Mechanics 1. F.
Credits: 3; Prereq: One year of college physics and calculus.
The first part of the sequence PHY 3604-4605. Basic concepts of quantum mechanics with applications in atomic and nuclear physics and condensed matter.

PHY 3802L Laboratory Physics 1. F.
Credits: 2; Prereq: PHY 3321 or equivalent.
Laboratory experiments in electricity and magnetism and electronic devices.

PHY 3905 Individual Work. F, S, SS.
Credits: 2 to 4; Prereq: Consent of instructor.
A guided course of study or special projects for selected undergraduates, primarily those with fewer than 10 credits of course work in physics or allied fields. May be repeated with change of content up to a total of 8 credits.

PHY 4070 Introduction to Biophysics. F, S.
Credits: 3; Prereq: Senior-level undergraduate status, or higher, in physical or biological science.
Physical principles in biology with special references to structures and functions of bio-membranes, elementary motile systems, and sensory receptors.

PHY 4222 Mechanics 2. S.
Credits: 3; Prereq: PHY 3221.
Second part of sequence PHY 3221-4222. Rigid body mechanics; motion in non-inertial frame, Lagrangian and Hamiltonian dynamics; elements of fluid mechanics; relativity theories.

PHY 4322 Electromagnetism 2. S.
Credits: 3; Prereq: PHY 3321.
The second part of the sequence PHY 3321-4322.

PHY 4444 Optics 2. S.
Credits: 3; Prereq: PHY 3422 and PHY 4322.
Classical physical optics and modern optics topics such as image evaluation, coherence, lasers, nonlinear optics, and holography.

PHY 4522 Fundamentals of Statistical Physics 2. S.
Credits: 3; Prereq: PHY 3521 and PHY 4605.
Second part of the sequence PHY 3521-4522. Statistical physics with applications in condensed matter and phase transitions.

PHY 4605 Introductory Quantum Mechanics 2. S.
Credits: 3; Prereq: PHY 3604.
The second part of the sequence PHY 3604-4605.

††Grading is on S-U basis only.

PHY 4803L Laboratory Physics 2. S.
Credits: 2; Prereq: PHY 3802L, and PHY 3422 and PHY 3604 or equivalents.
Selected experiments in atomic and modern physics, and optics.

PHY 4905 Individual Work. F, S.
Credits: 2 to 4; Prereq: 12 credits of physics.
Qualified undergraduate students may study selected topics in physics. May be repeated with change of content up to a total of 10 credits.

PHY 4910L Individual Laboratory Work. F, S, SS.
Credits: 1 to 3; Prereq: 12 credits of physics.
Qualified undergraduate students may pursue a special project in the laboratory. May be repeated with change of content up to a total of 3 credits.

PHY 4930 Research Seminar. F, S.
Credits: 1; Prereq: 12 credits of physics.
PHY 4905 or 4910L may be taken conjointly. Qualified undergraduates will take part in weekly seminars on research topics in physics, conducted by research faculty and the students themselves.

Physics — Specialized

PHS 2102 Problem Solutions in General Physics (Calculus) 1. F, S.
Credits: 1††; Coreq: PHY 2048.

PHS 2103 Problem Solutions in General Physics (Calculus) 2. F, S.
Credits: 1††; Coreq: PHY 2049.

PHS 2802 Introduction to Acoustics. F.
Credits: 2; Prereq: MAC 1132 or equivalent.
The elements of wave motion, sound, and related phenomena for the non-science major. Vibrations, simple harmonic motion, standing waves, and resonance, applied to familiar examples. Non-periodic waves and noise.

PHS 4303 Nuclear Physics. S.
Credits: 3; Prereq: PHY 3604 or PHY 3123.
Elementary treatment of nuclear phenomena, including nuclear properties, stability and radioactive decay, scattering and nuclear reactions, interactions of nuclear radiations with matter, and nuclear forces.

PHS 4330L Laboratory Techniques in Nuclear Physics 1. S.
Credits: 2; Coreq: PHS 4303 or consent of instructor.
The first part of the sequence PHS 4330L and 5331L. Detection and energy measurement of particle and photon radiations. Determination of nuclear properties. Coincidence measurements, pulse-height analysis, and nuclear instrumentation. Nuclear reactions.

PHS 4805 The Physical Basis of Music. S.
Credits: 3; Prereq: MAC 1132 or consent of instructor.
Vibration and wave behavior as applied to musical instruments, with studies of the generation and reception of sound waves, musical intervals and scales, musical acoustics and musical electronics.

GRADUATE COURSES

PHY 5722C Electronics 1.
Credits: 3

PHY 5723C Electronics 2.
Credits: 2

PHY 5905 Individual Work.
Credits: 2 to 4

PHY 6077 Biophysics of Nerves and Nervous Systems.
Credits: 4

PHY 6246 Classical Mechanics.
Credits: 3

PHY 6346 Electromagnetic Theory 1.
Credits: 4

PHY 6347 Electromagnetic Theory 2.
Credits: 2

PHY 6536 Statistical Physics 1.
Credits: 3

PHY 6537 Statistical Physics 2.
Credits: 2

PHY 6556 Low Temperature Physics.
Credits: 2

PHY 6645 Quantum Mechanics 1.
Credits: 3

PHY 6646 Quantum Mechanics 2.
Credits: 3

PHY 6648 Relativistic Quantum Fields 1.
Credits: 3

PHY 6905 Individual Work.
Credits: 2 to 4

PHY 6910 Supervised Research.
Credits: 1 to 5††

PHY 6920 Departmental Colloquium.
Credits: 1

PHY 6935 Seminar in Modern Physics.
Credits: 1

PHY 6940 Supervised Teaching.
Credits: 1 to 5††

PHY 6971 Research for Master's Thesis.
Credits: 1 to 15††

PHY 7097 Advanced Topics in Theoretical Physics.
Credits: 3

PHY 7098 Advanced Topics in Experimental Physics.
Credits: 3

PHY 7538 Advanced Statistical Mechanics.
Credits: 2

PHY 7669 Relativistic Quantum Fields 2.
Credits: 3

PHY 7939 Special Topics.
Credits: 2

PHY 7980 Research for Doctoral Dissertation.
Credits: 1 to 15††

Physics — Specialized

PHS 5204 Optical Spectra.
Credits: 2

PHS 5254 Light and Biological Systems.
Credits: 3

PHS 5255 Molecular Biophysics of Sensory Receptors 1.
Credits: 3

PHS 5256 Molecular Biophysics of Sensory Receptors 2.
Credits: 3

PHS 5257 Seminar in Biophysics.
Credits: 2

PHS 5265 Biocrystallography 1.
Credits: 3

PHS 5266 Biocrystallography 2.
Credits: 3

PHS 5304 Intermediate Nuclear Physics.
Credits: 2

PHS 5331L Laboratory Techniques in Nuclear Physics.
Credits: 1

PHS 5354 Introduction to Particle Physics.
Credits: 2

PHS 5404 Introductory Solid State Physics.
Credits: 2

PHS 6156 Computer Methods in Physics.
Credits: 2

PHS 6225 Quantum Theory of Matter 1.
Credits: 3

PHS 6247 Chemical Physics.
Credits: 2

PHS 6326 Nuclear Physics.
Credits: 2

PHS 6391 Seminar in Nuclear Physics.
Credits: 1

PHS 6392 Seminar in Particle Physics.
Credits: 1

PHS 6426 Physics of Solids 1.
Credits: 3

PHS 6493 Seminar in Experimental Ultralow Temperature Physics.
Credits: 1

PHS 6606 Special and General Relativity.
Credits: 4

PHS 7209 Theory of Optical Spectra.
Credits: 2

PHS 7226 Quantum Theory of Matter 2.
Credits: 3

PHS 7228 Special Topics in Theory of Atomic and Molecular Structure.
Credits: 2

PHS 7236 Atomic and Molecular Collisions 1.
Credits: 2

PHS 7237 Atomic and Molecular Collisions 2.
Credits: 2

PHS 7327 Nuclear Spectroscopy.
Credits: 2

PHS 7357 High Energy Theory 1.
Credits: 2

PHS 7358 High Energy Theory 2.
Credits: 2

PHS 7427 Physics of Solids 2.
Credits: 3

GRADUATE COURSES
Astronomy

AST 5210 Introduction to Astrophysics.
Credits: 3

AST 6165 Radiopropagation and Ionospheric Physics 1.
Credits: 2

AST 6166 Radiopropagation and Ionospheric Physics 2.
Credits: 2

AST 6167 Atomic Physics of Planetary Atmospheres.
Credits: 2

AST 6168 Physics of the Earth's Upper Atmosphere.
Credits: 2

AST 6169 Physics of Planetary Atmospheres.
Credits: 2

AST 6214 Stellar Astrophysics 1, Atmosphere.
Credits: 3

AST 6215 Stellar Astrophysics 2, Interior.
Credits: 3

AST 6216 Stellar Astrophysics 3, Evolution.
Credits: 2

PLANT PATHOLOGY
College of Agriculture

INSTRUCTIONAL STAFF 1981-82

Niblett, C.L., Chairman; Bartz, J.A.; Berger, R.D.; Charudattan, R.; Cook, A.A.; Freeman, T.E.; Hiebert, E.; Kucharek, T.A.; Loschke, D.C.; Luke, H.H.; Mitchell, D.J.; Pring, D.R.; Pueppke, S.G.; Purcifull, D.E.; Purdy, L.H.; Roberts, D.A.; Schenck, N.C.; Simone, G.W.; Stall, R.E.; Zettler, F.W.

PLP 3002C Fundamentals of Plant Pathology. F, SS-A.
Credits: 4; Prereq: BOT 1010C; BOT 2011C recommended.
Principles and practices of plant pathology.

PLP 4102 Principles of Plant Disease Control. S.
Credits: 3; Prereq: PLP 3002 or equivalent.
The principles of Plant Pathology as they apply to the problems of commercial control of economically important diseases of agronomic, fruit, ornamental, and vegetable crops.

PLP 4905 Problems in Intermediate Plant Pathology. F, S, SS-A, SS-B.
Credits: 1 to 4; Prereq: PLP 3002 or equivalent.
Individual study and research in areas of special interest to undergraduate students whose major field is Plant Pathology.

PLP 4931 Seminar in Plant Pathology. F.
Credits: 1; May be repeated once. Prereq: PLP 3002.
Discussion of current concepts and procedures related to the practice of Plant Pathology as a profession.

GRADUATE COURSES

PLP 5032 Intermediate Plant Pathology.
Credits: 3

PLP 5053 Tropical Plant Pathology.
Credits: 3

PLP 6223 Plant Virology.
Credits: 4

PLP 6241 Bacterial Plant Pathogens.
Credits: 4

PLP 6262 Fungal Plant Pathogens.
Credits: 4

PLP 6281 Field Plant Pathology.
Credits: 2

PLP 6291 Plant Disease Diagnosis.
Credits: 2

PLP 6303 Physiology of Parasitism.
Credits: 2

PLP 6303L Physiology of Parasitism Laboratory.
Credits: 2

PLP 6404 Epidemiology of Plant Disease.
Credits: 4

PLP 6502 Pathogen Variability and Host Resistance.
Credits: 4

PLP 6622 Biology, Ecology, and Taxonomy of Mycorrhizae.
Credits: 3

PLP 6905 Problems in Advanced Plant Pathology.
Credits: 1 to 4

PLP 6910 Supervised Research.
Credits: 1 to 5††

PLP 6921 Colloquium in Principles of Plant Pathology.
Credits: 1

PLP 6931 Seminar in Plant Pathology.
Credits: 1††

PLP 6940 Supervised Teaching.
Credits: 1 to 5††

PLP 6971 Master's Research.
Credits: 1 to 15††

PLP 7980 Doctoral Research.
Credits: 1 to 15††

PLANT SCIENCES—GENERAL
College of Agriculture
General and Cross-Departmental Courses

Dean, C.E., Chairman.

The four Departments of Agronomy, Fruit Crops, Ornamental Horticulture, and Vegetable Crops have formulated this curriculum which consists of the following courses:

PLS 2031 Fundamentals of Crop Production. F, SS.
Credits: 3; Prereq: Introductory Botany course or equivalent.
Fundamental principles and practices used in the production, improvement, and use of commercial crops.

PLS 3221 Plant Propagation. S.
Credits: 2; Must be taken concurrently with PLS 3221L.
Principles, practices, and physiological aspects of the propagation of horticultural and agronomic crops by cuttage, graftage, seedage, and other methods.

PLS 3221L Plant Propagation Laboratory. S.
Credits: 1; Must be taken concurrently with PLS 3221
Practice in propagation of horticultural and agronomic crops by seedage, cuttage, graftage, and other methods.

PLS 3401 Plant Science Operations.
Credits: 1; Prereq: permission of the instructor.
An opportunity for the student to make an extensive evaluation of the application of scientific principles within the several specialized fields of plant science. Representative areas of production will be visited in a 4-5 day field trip taken during the interim between terms. Registration must follow completion of trip.

PLS 4601 Weed Science. F.
Credits: 3; Prereq: BOT 3503C, BOT 3053L, and CHM 3200 or equivalent.
Chemical, biological, and mechanical weed control; weed identification and characteristics of herbicides.

PLS 4613 Aquatic Weed Control. F.
Credits: 2; Prereq: PCB 3033 or BOT 3503C.
Identification of Florida's aquatic weed problems and methods of chemical, biological, mechanical, and physical weed control. Specific topics will include herbicide residue, lake reclaimation, fish-plant interactions, and current laws regulating aquatic weed control.

PLS 4701 Field Plot Techniques. S.
Credits: 2
Techniques and procedures employed in field plot, greenhouse, and laboratory research. Interpretation and disposition of research results.

GRADUATE COURSES

PLS 5652 Herbicide Technology. S.
Credits: 3

PLS 6623 Weed Ecology. S, (Odd Years).
Credits: 2

††Grading is on S-U basis only.

Descriptions

POLITICAL SCIENCE

POLITICAL SCIENCE
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Clubok, A.B., Chairman; Bartley, E.R.; Baumgold, D.J.; Button, J.W.; Conradt, D.P.; Craig, S.C.; Damico, A.J.; DeHoog, R.H.; Jones, A.J.; Kelso, W.A.; Legg, K.R.; Lemarchand, R.; McCoy, T.L.; McQuown, O.R.; Maggiotto, M.A.; Matheny, A.R.; Morrison, J.F.; Rosenbaum, W.A., Rushefsky, M.E.; Sanderson, S.E.; Scher, R.K.; Spanier, J.W.; Suarez, A.; Swanson, B.E.; Wittkopf, E.R.

Students majoring in political science are required to take POS 2041, American Federal Government; CPO 2002, Modern Political Systems, and INR 2002, International Relations. A total of 30 semester hours is required for the major. Transfer students should note that of the 30 hours required for the major, at least 9 must be taken at the University of Florida.

Political Science majors with an overall upper division gradepoint average of 3.5 or better are eligible to pursue honors work in the department. The honors program consists of three parts: (1) POS 4932 Honors Preparation, (2) POS 493S Senior Honors Seminar, and (3) POS 4970 Senior Thesis.

Students selected for admission to the Senior Seminar in Political Science must have successfully completed two credits of POS 4932. The Senior Seminar consists of POS 493S, devoted to problems of conceptualization and research, and the Senior Thesis, POS 4970.

POS 4932 (1 credit each) is taken in conjunction with other Political Science courses at the 3000 or 4000 level. The student must secure permission of the instructor of the regular course to which they wish to add this special honors credit. POS 4932 itself consists of periodic tutorial sessions in which special reading and additional work relating to regular course is discussed. A separate grade is reported for the regular course and for POS 4932.

Political Science majors who have an overall upper division grade average of 3.5 or better and who satisfactorily complete a three hour Senior Thesis, will be graduated with Honors. In cases where the thesis or project is of exceptional merit, the department may recommend to the Dean that High Honors be awarded. Note: POS 493S is given only in the Fall semester, and POS 4970 in the Spring. If you hope to graduate with honors see an adviser to plan your schedule.

Government Administration, Management, and Planning

This program is recommended for students who will be seeking either entry level career positions in government or graduate level programs of professional training in public administration. Students will orginarily major in Political Science and will concentrate on administrative and related courses both in their major and in their electives. Students in this program are authorized to take up to 15 hours of coursework outside of the College of Liberal Arts and Sciences in order to pursue studies in the management area. Recommended courses for students in the public administration core are listed below:

A. Strongly recommended Political Science courses: PAD 4003, PAD 4034.

B. Recommended Political Science courses: POS 2112, POS 3142, POS 3413, PUP 3204, PUP 4003, PUP 4404, PAD 4803,.

C. Strongly recommended courses outside Political Science: ACC 2001, STA 3013, or 3023, ECO 2013, 2033.

D. Recommended courses outside Political Science: PSY 2013, QMB 3700, ECO 4504, SOC 2000, SOC 3310, SOC 3745, MAN 3301, MAN 4310, CIS 3120.

Actual work experience in government is an invaluable adjunct to a student's program of formal study in the field of public administration. For this reason students are encouraged to seek out temporary positions in government agencies as summer jobs. Several different kinds of opportunities are available. Some students have been successful in finding such positions in the local governments of their home towns. Other students have located jobs in state agencies either in Tallahassee or in regional offices located throughout the state. Students may also seek positions through the federal summer internship programs; information on federal work opportunities is available through the Career Planning and Placement Center in Reitz Union.

For information contact the Political Science Department 3324 GPA.

International Politics

Political Science majors interested in international politics are required to take International Politics (INR 2002) as one of the three required introductory courses (CPO 2002 and POS 2041 as well). Beyond this introductory course the student may select from a number of courses: U.S. in World Affairs (INR 3102), The Making of American Foreign Policy (INR 3103), U.S. Military Strategy (INR 4114), Comparative Foreign Policy (INR 4204), International Law (INR 4403), International Institutions (INR 4502) and International Politics of Latin America (INR 4244). Some students may also wish to take Statistics for the Social Sciences (STA 3013) or Introduction to Statistics (STA 3023).

Two points need to be stressed, however, for any student wishing to deepen his knowledge of international politics. The first is that he ought to have a broad training. He should not take just international politics courses, let alone all of them. He should select those of interest to him. But beyond that he ought to think of such other political science courses as The Presidency (POS 3413); Communism: Theory and Practice (POT 4414); The Military in Politics (CPO 3083); The Politics of Developing Countries (CPO 3034), and the various courses focusing on specific areas or countries such as Western Europe (CPO 4103), Latin America (CPO 3303), Africa (CPO 3204), China/Japan (CPO 3513); Post-Industrial Societies (CPO 4046); Eastern European Communist States (CPO 4614); and Politics in the Soviet Union and Eastern Europe (CPO 4633).

The second point which needs emphasizing is is that the student ought to explore widely in related fields. No student in international politics can afford to ignore economics; nor can he be considered well trained without knowledge of such other obviously related fields as history, geography and sociology. The listing below is not meant to be exhaustive, only suggestive. None of the courses are required and the student may well find other courses in these departments which are of interest but not listed here. Moreover, the student may find similarly interesting courses in other fields such as psychology and anthropology. The student ought to consult the catalog and "shop around." It will be time well spent. New courses are often introduced and the content of courses does change.

Economics: Basic Economics I and II (2013, 2023), International Economics (3703, 4713), Comparative Economic Systems (4003), Economic Development (4013) and the economics of various areas/countries such as Latin America (3403), East Asia (4203) and Russia/Soviet Union (4334).

Geography: Geography of World Societies (2420), Geography of World Economics (2500), Political Geography (3471), Economic Geography (3502), Air Photo Interpretation (4124), and the geography of various areas such as Europe (3504) and USSR (3554).

History: U.S. (2010, 2020), U.S.-East Asia (3523), U.S. Since World War II (4270), Military History (4546, 4547), Russian/Soviet (3571, 3572 and 3573), Modern Britain (3502), France (4451) and Germany (4463, 4464).

Sociology: Social Inequality (4410), Complex Organizations (4422), Social Modernization (4432), Modernization in Latin America (4462).

Perhaps one further point ought to be underlined. While a broad training will provide the student with a good international politics background and ability to analyze problems in the field, none of this obviously guarantees a job with the U.S. Government or a multinational corporation.

Graduate courses and seminars are offered leading to both M.A. and Ph.D. degrees.

Comparative Politics

CPO 2002 Comparative Politics. F, S, SS.
Credits: 3
The classification of political systems according to institutional and developmental characteristics. Causes and costs of political stability and instability. Comparison will relate to contemporary political institutions and processes in specific countries.

CPO 3034 Politics in Developing Nations. F.
Credits: 3; Prereq: CPO 2002.
A general introduction to politics in "third world" nations, an examination of common problems and the various strategies for dealing with them.

CPO 3083 The Military in Politics. S.
Credits: 3
An analysis of the sources and uses of the poltical power of the Armed Forces, the causes and consequences of military intervention in politics, and contrasting patterns of civil-military relations in Western and non-Western societies.

CPO 3204 African Politics. S.
Credits: 3; Prereq: CPO 2002.
African nationalism, political movements, and the study of governments in the African states.

CPO 3303 Introduction to Latin American Politics. F.
Credits: 3
An introduction to and overview of political patterns and political behavior in Latin America within a comparative and developmental perspective. Emphasis on the social, economic, and political factors shaping contemporary political structures and processes.

CPO 3403 The Politics of the Middle East. F.
Credits: 3
The aim of the course is to provide a general introduction to the history and politics of the Middle East and offer tentative answers to the persistent questions concerning the area.

CPO 3513 Politics in China and Japan. S.
Credits: 3
An analysis of the government and political process in China and Japan. Special emphasis on the historical social and economic determinants of current political institutions and political behavior.

CPO 4046 Politics in Post-Industrial Societies. F.
Credits: 3
Comparative analysis of advanced industrial states with emphasis on diverse patterns of economic, social and political development as determinants of current political structures and policies.

CPO 4103 Western European Politics. F.
Credits: 3; Prereq: CPO 2002.
A comparative analysis of the government and politics of the major western European countries. Special emphasis will be given to party systems and the social bases of politics in industrialized societies.

CPO 4304 Political Systems of Latin America: Modernization, Authoritarianism, Revolution. F.
Credits: 3; Prereq: CPO 3303 or equivalent experience.
Political responses to modernization in Latin America with emphasis of authoritarian regimes in Argentina and Brazil and the role of revolution in Mexican and Cuban development.

CPO 4306 Contemporary Problems in Latin American Politics. S.
Credits: 3; Prereq: CPO 3303 or equivalent experience.
The analysis of major themes and issues in the study of Latin American politics; the breakdown of democratic systems, dependency and imperialism, revolutionary movements and regimes. Will be offered with changing content.

CPO 4614 Eastern European Communist States. S.
Credits: 3; Prereq: CPO 2002 or POT 4414.
Comparative analysis of Communist parties and governmental systems of the Eastern European Communist government.

CPO 4633 Politics in the Soviet Union and Eastern Europe. F.
Credits: 3; Prereq: CPO 2002 or POT 4414.
A comparative analysis of the formal structures of government and political parties of the Soviet Union and Eastern Europe, the actual operation of their political systems, and the factors which have influenced their development.

GRADUATE COURSES

CPO 5065 Eastern European Communist States.
Credits: 4

CPO 5105 Western European Politics.
Credits: 4

CPO 5145 Politics in Post-Industrial Societies.
Credits: 4

CPO 5305 Political Systems of Latin America: Modernization, Authoritarianism, Revolution.
Credits: 4

CPO 5306 Contemporary Problems in Latin American Pollitics.
Credits: 4

CPO 5636 Politics in the Soviet Union and Eastern Europe.
Credits: 4

CPO 6036 Politics in Developing Societies.
Credits: 3

CPO 6037 Political Development.
Credits: 3

CPO 6041 Politics in Advanced Industrial Societies.
Credits: 3

CPO 6307 Latin American Politics.
Credits: 3

International Relations

INR 2002 International Relations. F, S, SS.
Credits: 3
The nature of international relations; nationalism, imperialism, militarism, armaments; history of international relations, foreign policies, functions and problems of democracy; international organization, the United Nations.

INR 2054 Alternative World Futures. S.
Credits: 3
Analysis of political implications of global trends in population growth, food production, resource consumption, and weapons proliferation. The adequacy of existing political and social institutions, at both national and international levels, for coping with these trends are examined.

INR 3102 The U.S. and World Affairs. F, SS.
Credits: 3; Prereq: INR 2002 or instructor's permission.
An analysis of the tradition and development of American foreign policy with major emphasis on contemporary foreign policy problems.

INR 3303 The Making of American Foreign Policy. F.
Credits: 3; Prereq: INR 2002 or instructor's permission.
Examination of the principal factors influencing the formulation of U.S. foreign policy, including the international environment, information processing, personality factors, political culture, decision makers, and decision making. Consideration is also given to the institutional setting, including the President, Congress and public opinion.

INR 4114 American Military Strategy. S.
Credits: 3; Prereq: INR 2002 and Junior or Senior standing.
This course focuses on contemporary problems of deterrence, arms controls, limited conventional war and revolutionary warfare and upon the assumptions underlying the whole scope of national security policy.

INR 4204 Comparative Foreign Policy. S.
Credits: 3; Prereq: INR 2002 and Junior or Senior standing.
Special topics in international relations and foreign policy such as broad-based comparative analysis of foreign policy behavior, comparative international subsystems, reinterpretation of concepts such as nationalism and imperialism.

INR 4244 International Politics of Latin America. F.
Credits: 3; Prereq: INR 2002 or advanced standing in Latin American studies.
An analysis of the international politics of Latin America, includes relations with the United States and non-hemispheric powers as well as the foreign policies of Latin American states vis-a-vis each other.

INR 4403 International Law. S.
Credits: 3; Prereq: INR 2002 and Junior or Senior standing.
Study of the main principles of the Law of Nations.

INR 4502 International Institutions. F.
Credits: 3; Prereq: INR 2002 and Junior or Senior standing.
Analysis of the political and functional aspects of international organization and administration alternating emphasis on either global organizations, such as the United Nations, or regional organizations such as the European Economic Community.

GRADUATE COURSES

INR 5207 Comparative Foreign Policy.
Credits: 4

INR 5245 International Politics of Latin America.
Credits: 4

INR 5334 American Military Strategy.
Credits: 4

INR 5505 International Institutions.
Credits: 4

INR 6208 Foreign Policy.
Credits: 3

INR 6607 International Relations Theory.
Credits: 3

Public Administration

PAD 4003 Introduction to Public Administration. F, S.
Credits: 3
The role of administrative agencies in the formulation and implementation of public policy. Emphasis on the politics of administration. Problems in administrative management.

PAD 4034 Problems of Public Administration and Policy. S.
Credits: 3; Prereq: PAD 4003 and Junior or Senior standing.
A treatment of the political-administrative dimensions of government planning, personnel, and finance.

PAD 4604 Administrative Law and Regulatory Politics. F, S.
Credits: 3
An introduction to the rapidly expanding and increasingly important field of administrative law. Materials for the course will be balanced between cases in administrative law, illustrating the principles of administrative procedure and review as well as judicial review of administrative agencies and studies of regulatory politics in administrative agencies, with special emphasis on theories of organizational behavior.

PAD 4803 Urban Administration. S.
Credits: 3; Prereq: Junior or Senior standing.
An introduction to government administration and management in urban settings. Emphasis will be placed upon the programmatic aspects of urban governmental management. Topics included are program initiation, formulation, implementation, operation and evaluation.

GRADUATE COURSES

PAD 5035 Problems of Administration and Policy.
Credits: 4

PAD 5807 Urban Administration.
Credits: 4

PAD 6053 Urban Metropolitan and Regional Public Administration.
Credits: 3

PAD 6108 Public Administration Theory.
Credits: 3

PAD 6109 Public Administrative Behavior.
Credits: 3

PAD 6136 Contemporary Public Administration.
Credits: 3

PAD 6227 Public Budgeting and Finance.
Credits: 3

PAD 6327 Government and the Planning Process.
Credits: 3

PAD 6946 Internship in Government.
Credits: 3

Political Science

POS 2041 American Federal Government. F, S, SS.
Credits: 3
Basic principles of the Federal Constitution. Civil Rights. Political parties and the electoral process. The structure and machinery of the federal government, including the Congress, President, and Judiciary.

POS 2112 American State and Local Government. F, S, SS.
Credits: 3
State constitutions, political parties, and politics. State legislatures, courts and chief executives. The functions of state governments City and county government.

POS 3002 Analyzing Politics. S.
Credits: 3
An introduction to the theory and method of contemporary political analysis. Emphasis on alternative analytical frameworks, concepts, variables, measurement, and quantitative analysis of political data.

POS 3142 Urban Politics. F, S.
Credits: 4; Prereq: POS 2041.
An examination of urban problems and their resolutions.

POS 3173 Southern Politics. F.
Credits: 3; Prereq: POS 2041.
The changing politics of the South; two party development; urbanism, traditionalism, racism.

Descriptions

POLITICAL SCIENCE

POS 3204 Political Behavior. S.
Credits: 3
Factors influencing political decisions by the individual and by groups.

POS 3233 Politics and Public Opinion. F.
Credits: 3; Prereq: POS 2041.
Study of the definition and measurement of political opinion by polls and surveys, developmental character of opinions, variables in opinion formation, experiments in opinion measurement and the relation of political opinion to public theory.

POS 3263 Political Leadership. S, F.
Credits: 3
Conceptual and comparative study of leadership in a variety of political contexts.

POS 3413 The Presidency. F, S, SS.
Credits: 3; Prereq: POS 2041.
The central role of the American Presidency in the political process. Emphasis on the contemporary institutional nature of that office and the behavior of its occupants.

POS 3443 Political Parties and Elections. F, S, SS.
Credits: 3; Prereq: POS 2041.
The composition, organization and structure of political parties and their role and relationships in the political process.

POS 3603 American Constitutional Law. F.
Credits: 3; Prereq: POS 2041 and Junior or Senior standing.
A complete study and analysis of the Federal Constitution, with study and briefing of leading cases in constitutional law.

POS 3606 American Civil Liberties. S.
Credits: 3; (not open to those taking POS 4654).
Discussion of statutes and court decisions emphasizing First Amendment freedoms, equal protection of the law, due process and rights of defendants, implied rights, and the rights of women, juveniles, students, prisoners and the mentally ill.

POS 4284 Judiciary and Policy Making. F.
Credits: 3
An analysis of judicial policy making processes focusing on national level appellate courts.

POS 4424 Legislative Politics. F, S.
Credits: 3; Prereq: POS 2041 and Junior or Senior standing.
The politics of the legislative process. Recruitment of legislators. Formal and informal rules of behavior. Legislative-executive relations. The committee system. The impact of political parties, interest groups, and constituents on the legislative process.

POS 4674 Political Change and Legal Development. S.
Credits: 3
Introduces the student to the role of law in political and social development by providing him/her with a background in social theory and the history of legal systems, beginning with Roman law.

POS 4684 Administration of Justice. F.
Credits: 3
How the administration of justice operates through the courts and through law.

POS 4691 Law, Politics, and the Public Interest. S.
Credits: 3
Addresses the recent emergence of the "public interest" law movement, emphasizing a critical perspective on uses of litigation as a tool for pursuing policy goals. In particular the course will focus on public interest areas such as consumer law and environmental law.

POS 4905 Individual Work. F, S, SS.
Credits: 2 to 3
Readings and discussion in advanced topics of political science; requires Departmental permission. Can be taken only once.

††Grading is on S-U basis only.

POS 4925 Workshop in Political and Social Issues.
Credits: 3
A workshop course for advanced Juniors and Seniors majoring in political science on a topic involving practical application.

POS 4930 Special Topics Course.
Credits: 3
Selected topics in political science; precise course content will be announced in advance.

POS 4932 Honors Preparation. F, S, SS.
Credits: 1; Maximum of 4 credits allowed. Prereq: UF overall GPA of 3.3.
Must be taken in conjunction with other Political Science courses at the 300 or 400 level. Open to majors with overall UF GPA of 3.3 Students must secure permission of instructor of the course to which they wish to add this credit.

POS 4935 Senior Honors Seminar. F.
Credits: 3; Prereq: Senior major in department and permission of a departmental adviser.
An analysis of the problems of conceptualization and research in the various areas of political science.

POS 4936 Senior Colloquium.
Credits: 3; Senior standing in Political Science and permission of instructor required.
Special topics in Political Science on a colloquim basis for Seniors.

POS 4970 Senior Thesis. S.
Credits: 2 to 4; Prereq: POS 4935.

GRADUATE COURSES

POS 5425 Legislative Politics.
Credits: 4

POS 5685 Administration of Justice.
Credits: 4

POS 5905 Individual Work.
Credits: 4

POS 5933 Special Topics Course.
Credits: 4

POS 6067 Federalism and Intergovernmental Relations.
Credits: 3

POS 6076 Social Structures and Political Power.
Credits: 3

POS 6127 State Government and Politics.
Credits: 3

POS 6157 Community Analysis.
Credits: 3

POS 6207 Political Behavior.
Credits: 3

POS 6407 Legislative-Executive Relations.
Credits: 3

POS 6617 Topics in Public Law.
Credits: 3

POS 6716 Contemporary Theories in Political Science.
Credits: 3

POS 6736 The Conduct of Inquiry.
Credits: 3

POS 6747 Topics in Political Methodology.
Credits: 3

POS 6757 Survey Research.
Credits: 3

POS 6905 Individual Work.
Credits: 1 to 4

POS 6910 Supervised Research.
Credits: 1 to 5††

POS 6927 Practicum in Applied Political Science.
Credits: 3

Political Theory

POT 2001 Power, Ethics and the Modern State. F, S.
Credits: 3
An introduction to the nature and meaning of the modern state with special emphasis on the relationship between politics and ethics. Examination of obedience and obligation, law and morality and justice.

POT 3314 American Political Thought. S.
Credits: 3; Prereq: Junior or Senior standing in social sciences.
Analysis of major historical and recent interpretations of the American political system. Consideration of such theories as Madisonian democracy, pluralism, elitism, liberalism, and conservatism.

POT 4013 Great Political Thinkers: Ancient and Medieval. F.
Credits: 3
Study of major early political theorists including Plato, Aristotle, St. Augustine, and St. Thomas Aquinas. Emphasis on the principles of a just political order: natural law, civic virtue, constitutionalism. Analysis of church-state struggles and the emergence of the modern state.

POT 4044 Great Political Thinkers: Machiavelli to Marx. S.
Credits: 3
Study of selected political theorists from Machiavelli to Marx. Emphasis on the ideas of authority and freedom, obligation and consent in the writing of Hobbes, Locke, Rousseau, etc. Liberalism, conservatism, utilitarianism, idealism.

POT 4054 Contemporary Theories of the State. F.
Credits: 3; Prereq: 10 hours of Political Science.
A study of the problems of power and justice under the modern state. Consideration of such political doctrines as anarchism, Marxism, fascism and democracy.

POT 4324 Radical Thought: Utopian Socialism, Anarchism and Marxism.
Credits: 3
This course considers major figures in the history of modern radical thought, to understand and distinguish radicalism as a form of thought — its difference from ordinary resentfulness and utopianism, and from other sorts of political theory.

POT 4414 Communism: Theory and Practice. S, SS.
Credits: 3; Prereq: Junior or Senior standing; CPO 2002 or INR 2002 recommended, but not required.
Emphasis on the interrelationship of theory and practice in the evolution of Marxist-Leninist theory and developments in various communist political systems. The appeals of communism. Cadre training. The development of the international communist system.

GRADUATE COURSES

POT 6007 Leading Political Thinkers.
Credits: 3

POT 6067 Contemporary Political Theory.
Credits: 3

POT 6087 Latin American Political Thought and Ideology.
Credits: 2

POT 6207 American Political Thought.
Credits: 2

POT 6307 Values and Ideologies.
Credits: 3

POT 6506 Values and Administration.
Credits: 3

Public Policy

PUP 2002 Public Policy in the United States. F.
Credits: 3
A general introduction of public policy. The focus is on the selection, costs and consequences of policy goals in America.

PUP 2012 Comparative Public Policies.
Credits: 3
The purpose of this course is to enable the student to obtain an understanding of the differences in scope and substance of major issue and public policies impacting upon the United States and other nation states.

PUP 2232 Politics of Energy.
Credits: 3
Review of past and current U.S. energy politics, potential sources of future energy and conservation proposals, with special emphasis on Florida's present and future energy situation.

PUP 3204 Politics, Ecology, and Energy. F, S.
Credits: 3
Problems of conservation, pollution. Group pressures and inter-action for and against development.

PUP 3323 Women in Politics. F.
Credits: 3
An investigation of women as a minority group in American politics and the various strategies now employed to change this status.

PUP 3623 Politics of Poverty. F.
Credits: 3
The purpose of this course is to investigate the issue of poverty, public attitudes toward the poor, public policies dealing with poverty, and forms of mobilization of the poor.

PUP 4003 Issues in American Politics. F.
Credits: 3; Prereq: POS 2041.
Examples of policy conflict drawn from urbanism, poverty and other areas of national socio-economic policy. Consideration of policy alternatives. Peaceful against violent solutions and effects of groups.

PUP 4104 Politics of Planning.
Credits: 3; Prereq: Junior or Senior standing in the social sciences or instructor's permission.
An assessment of the various political factors shaping the direction and tasks of the planner. The planning process will be viewed as having a number of social and economic consequences.

PUP 4313 Minorities and Change in American Politics. F.
Credits: 3
An analysis of the political strategies employed by various racial and ethnic minorities in the United States.

PUP 4404 Politics of Education. S.
Credits: 3; Prereq: Junior or Senior standing or instructor's permission.
The interrelationship of American political and educational systems; educational policymaking as political process; analysis of contemporary educational problems.

GRADUATE COURSES

PUP 5105 Politics of Planning.
Credits: 4

PUP 5405 Politics of Education.
Credits: 4

PUP 6006 Policy Process.
Credits: 3

PUP 6007 Policy Evaluation.
Credits: 3

PUP 6027 Linking Public Policies.
Credits: 2

PUP 6207 Environmental Policy.
Credits: 2

PUP 6317 Politics of Equality.
Credits: 3

PUP 6537 Public Policy of Housing.
Credits: 2

PUP 6607 Health Politics and Policy.
Credits: 2

PUP 6707 Political Economy.
Credits: 3

PUP 6717 Regulatory Politics.
Credits: 2

Social Sciences — Interdisciplinary

DHE 4200 Population Policy.
Credits: 3
Review of past and current U.S. population policies. Formulation of policy in the light of numerous criteria and goals. Direct and indirect consequences of selected policies, their implementation and evaluation.

SSI 4601 Masterpieces in Social Sciences I. F.
Credits: 4; Prereq: Senior standing and some work in one of the social sciences.
Reading of early classics in economics, history, political science, sociology and cultural anthropology.

SSI 4602 Masterpieces in Social Sciences II. S.
Credits: 4; Prereq: Advanced standing and some work in one of the social sciences.
Reading of the 20th century classics in economics, history, political science, sociology and cultural anthropology.

POULTRY SCIENCE
College of Agriculture

INSTRUCTIONAL STAFF 1981-82

Harms, R.H., Chairman; Arafa, A.S.; Damron, B.L.; Douglas, C.R.; Fry, J.L.; Janky, D.M.; Mather, F.B.; Miles, R.D.; Wilson, H.R.

PSE 3211C Incubation, Brooding and Rearing. S.
Credits: 3
Chick embryology; hatchery equipment; incubation principles and practices; brooding equipment and methods; rearing of pullets; chick sexing and judging. Field trips to hatchery, broiler and egg operations.

PSE 4223 Poultry Management. F.
Credits: 3; Prereq: ASG 3003.
Management techniques for broilers, layers, turkeys, hatcheries, and commercial egg and poultry processing plants. Field trips to various poultry operations.

PSE 4311 Poultry Breeding. SS.
Credits: 2; Prereq: AGR 3303.
Genetic characteristics, breeds and principles of applied poultry breeding.

PSE 4411C Poultry Nutrition. F.
Credits: 3; Prereq: ASG 3402.
Nutritive requirements, feed formulation, economics and systems of feeding poultry. Production of various vitamin and mineral deficiencies in the laboratories.

PSE 4611 Poultry Products Technology. S.
Credits: 3; Prereq: ASG 3003.
Processing methods, composition, nutritive value, flavor palatability and shelf-life of poultry meat and eggs.

PSE 4905 Problems in Poultry Science. F, S, SS.
Credits: 1 to 3; May be repeated with change of content up to a maximum of 6 credits; Prereq: Permission of instructor.
Qualified students may choose an approved problem concerning some phase of Poultry Science.

PSE 4941 Full Time Practical Work Experience in the Poultry Industry. F, S, SS.
Credits: 1 to 3††; Prereq: Prior arrangement with advisor, approval of Department Chairman and Dean.

GRADUATE COURSES

PSE 6227 Advanced Poultry Management.
Credits: 3

PSE 6415 Advanced Poultry Nutrition.
Credits: 3

PSE 6522 Avian Physiology.
Credits: 2 to 4

PSE 6614 Advanced Poultry Products Technology.
Credits: 3

PSE 6905 Problems in Poultry Science.
Credits: 1 to 3
May be repeated with change of content up to a maximum of 8 credits.

PSE 6910 Supervised Research.
Credits: 1 to 5††

PSE 6931 Topics in Poultry Production.
Credits: 2 to 3
May be repeated with change of content up to a maximum of 9 credits.

PSE 6938 Graduate Seminar in Poultry Science.
Credits: 1
May be repeated with change of content up to a maximum of 2 credits.

PSE 6940 Supervised Teaching.
Credits: 1 to 5††

PSE 6971 Master's Research.
Credits: 1 to 15††

PSYCHOLOGY
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Meyer, M.E., Chairman; Berg, W.K.; Brackbill, Y.; Branch, M.N.; Cunningham, W.R.; Dewsbury, D.A.; Epting, F.R.; Fischler, I.S.; Froming, W.J.; Grater, H.; Griggs, R.A.; Johnston, J.M.; Landsman, T.; Levy, C.M.; Malagodi, E.F.; Miller, P.; Miller, S.A.; Neimeyer, G.; Nevill, D.D.; Pennypacker, H.S.; Roberts, B.J.; Rowland, N.; Schlenker, B.R.; Scott, R.R.; Severy, L.J.; Shaw, M.E.; Srull, T.; Swanson, R.M.; Teas, D.C.; Tucker, C.; Van Hartesveldt, C.; Waldbillig, R.J.; Webb, W.B.; White, K.D.; Ziller, R.C.

An undergraduate psychology major consists of a minimum of 36 semester hours in psychology. At least 30 of the 36 hours must be in upper division courses. At least 18 of the 36 hours must be taken at the University of Florida.

Courses must be distributed as follows:

1. Introductory level: PSY 2013 or its equivalent.

2. Foundation level: Students choose a minimum of two courses from each of these two groups:

Group A: EAB 3002, EXP 3604, PSB 3004, CBH 3003. (Note: EXP 3204 can be substituted for EXP 3604).

Group B: DEP 3003, SOP 3004, PPE 3004.

3. Laboratory courses: At least one of the following courses must be taken: DEP 4704, SOP 4214, EAB 4022C, EXP 4205C, EXP 4934, PPE 4324C, PSB 4104L, CBH 4023C.

4. The student chooses enough additional courses from the 3000, 4000, or 5000 level courses in psychology to meet the 36 hour minimum requirement.

††Grading is on S-U basis only.

5. Statistics: **Two courses in statistics are required, STA 3023 and STA 3024. STA 3023 is a prerequisite for all 4000 and 5000 level courses in psychology,** and thus should be taken prior to the laboratory courses. It is recommended that STA 3024 be taken prior to or concurrently with the laboratory courses. Hours earned in Statistics will count toward the 30 hour elective requirement of the College.

Students intending to major in psychology or transferring from another school with a psychology major should obtain a brochure from the psychology department office, Room 114 Psychology Building, and see a departmental adviser about their program of study.

Departmental Honors: A student who has completed a substantive and empirical research paper at the University of Florida may request that the paper be considered for Departmental Honors. The paper will be evaluated by a three-person committee consisting of the student's research supervisor and two members drawn from the Psychology Honors Committee. The committee will recommend that the student graduate with Honors in Psychology if the project exhibits outstanding scholarship and if the student has earned at least a 3.5 grade point average in all upper division courses and in all psychology courses. Further information about Psychology Honors can be obtained from the Psychology Advisement Office, Room 163 Psychology.

Clinical Psychology

CLP 4144 Abnormal Psychology.
Credits: 3; Prereq: PCO 2714 or PPE 3004.
The varieties of disordered experience and conduct are studied for their contribution to an understanding of more effective personal and social adjustment. Specific disorders include the neuroses and psychoses as well as psychosomatic and conduct disturbances.

GRADUATE COURSES

CLP 6169 Seminar: Psychology of Deviant Behavior.
Credits: 3; max: 6.

CLP 649B Sex Therapy: Principles and Applications.
Credits: 3

Comparative Psychology and Animal Behavior.

CBH 3003 Basic Comparative Psychology.
Credits: 3; Prereq: PSY 2013.
Survey of the approaches to and concepts of the study of animal behavior as related to psychology.

CBH 4023C Laboratory Topics in Animal Behavior.
Credits: 4; Prereq or Coreq: CBH 3003 and consent of instructor.
Laboratory techniques used in the study of a variety of behavioral patterns in a variety of species.

GRADUATE COURSES

CBH 5085 Seminar in Comparative Psychology.
Credits: 3; Prereq: CBH 3003 and STA 3023.

CBH 6056 Comparative Psychology.
Credits: 3; max: 9; Prereq: PSB 6076 or consent of instructor.

CBH 7088 Advanced Seminar in Comparative Psychology.
Credits: 3; max: 15; Prereq: CBH 6056.

††Grading is on S-U basis only.

Developmental Psychology

DEP 3003 Development Psychology.
Credits: 3; Prereq: PSY 2013.
Theory and research on psychological development from prenatal stages through adulthood.

DEP 4025 Personality Development.
Credits: 3
Biological and environmental influences on personality development. Methods and data from ethology and behavior genetics are included, and evidence for various theories of socialization explored. Research in specific areas is reviewed, including moral and sex role development and altruism.

DEP 4115 Infancy and Early Childhood.
Credits: 3; Prereq: DEP 3003.
The course will emphasize the development of psychological process during infancy and early childhood as well as prenatal, perinatal and postnatal influences on development.

DEP 4305 Adolescent Psychology.
Credits: 3
Biological, psychological, and sociological perspectives on adolescence. Includes such topics as dynamics of socialization, self-concept and identity, peer groups, and problems of adolescence.

DEP 4404 Psychology of Aging.
Credits: 3; Prereq: DEP 3003.
Topics in the field of gerontology from a lifespan developmental perspective, including the development of psychological processes in the aged, psychological problems of the aged, and theoretical and methodological issues in the study of the aged.

DEP 4704 Research Methods in Developmental Psychology.
Credits: 4; Prereq: DEP 3003.
Methodological approaches to the study of development including experimental and observational techniques.

GRADUATE COURSES

DEP 6057 Advanced Developmental Psychology I.
Credits: 3

DEP 6058 Advanced Developmental Psychology II.
Credits: 3

DEP 6059 Seminar: Special Topics in Developmental Psychology.
Credits: 1 to 3; max: 12.

DEP 6099 Literature in Developmental Psychology.
Credits: 3

DEP 6409 Seminar: Adult Development and Aging.
Credits: 3; max: 9.

DEP 6796 Measurement in Developmental Research.
Credits: 3; Prereq: consent of instructor.

DEP 6799 Seminar: Current Research Methods in Developmental Psychology.
Credits: 3; max: 15; Prereq: DEP 6099.

DEP 6936 Current Research in Developmental Psychology.
Credits: 1 to 2; max: 20.

DEP 7118 Infancy and Early Childhood.
Credits: 3

DEP 7608 Theories of Child Development.
Credits: 3

Experimental Analysis of Behavior

EAB 3002 Introduction to Behavior Analysis.
Credits: 3; Prereq: PSY 2013.
An introduction to and survey of the principles, methods, theories and applications of the Experimental Analysis of Behavior.

EAB 3033 Strategies and Tactics of Human Behavioral Research.
Credits: 3
Study of scientific approach to investigating human behavior in applied settings.

EAB 3764 Applications in Behavior Modification and Behavior Therapy.
Credits: 3
Reading and discussion about behavioral applications with psychotic children, in mental retardation, with juvenile deliquency, in community mental health, within the family, in preschool and school setting, with alcoholism, with eating disorders, with physiological function and disease, with sexual disorders, with neuroses, with chronic mental hospital patients, and in behavioral technology.

EAB 4022C Introduction to Laboratory Procedures in Behavior Analysis.
Credits: 4; Prereq: EAB 3002.
An introduction to general laboratory procedures and apparatus employed in the experimental analysis of animal behavior. Daily laboratory sessions focus upon experimental treatments, apparatus programming, and data analysis.

EAB 4184 Behaviorism in Contemporary Society.
Credits: 3; Prereq: EAB 3002.
Consideration of the applications of behavioral science and technology to contemporary society with emphasis upon the implications of behavioristic theory and the experimental analysis of behavior.

EAB 4704 Introduction to Applied Behavior Analysis.
Credits: 3
Recording and charting human behavior. Tactics of behavior management; theory and research.

EAB 4724C Precise Behavior Management.
Credits: 1 to 3
Applications of the principles of behavior analysis to problems involving human behavior change, particularly in an educational context. May be repeated with change in content to a maximum of 8 credits.

EAB 4933C Seminar in Research Methods in Behavior Analysis.
Credits: 1 to 3; Repeatable up to maximum of 6 credits with change of content; Prereq: at least one of EAB 4724C or 4764 as appropriate to current content; and consent of instructor.
Advanced study of special research topics with which the student has had individual laboratory experience. Emphasis is upon research strategies and methodological considerations in specialized areas of experimentation.

GRADUATE COURSES

EAB 5055 Advanced Experimental Analysis of Behavior.
Credits: 3; Prereq: EAB 3002, STA 3023, and consent of instructor.

EAB 5436 Behavioral Pharmacology.
Credits: 3; Prereq: EAB 3002, STA 3023.

EAB 5935 Laboratory Methods in Psychology.
Credits: 3; Prereq: upper level standing, one of EAB 3002, EXP 3604, PSB 3004, or CBH 3003.

EAB 6056 Research Tactics in Experimental Analysis of Behavior.
Credits: 3; Prereq: EAB 6098.

EAB 6098 Literature in Experimental and Applied Behavior Analysis.
Credits: 3

EAB 6118 Theoretical Foundations of Behavior Analysis.
Credits: 3; Prereq: EAB 5055 or 6098 and consent of instructor.

EAB 6707 Applied Behavior Analysis.
Credits: 3

EAB 6708 Literature in Applied Behavior Analysis.
Credits: 3; Prereq: EAB 5055 or 6098

EAB 6719 Seminar: Strategies and Tactics of Human Behavioral Research.
Credits. 3, Prereq· EAB 6707

EAB 6758 Measurement and Assessment of Behavior.
Credits: 3

EAB 6937C Seminar: Special Topics in Experimental Analysis of Behavior.
Credits: 1 to 4; max: 9; Prereq: EAB 6098.

EAB 7089 Advanced Seminar: Experimental Analysis of Behavior.
Credits: 3; Prereq: EAB 5055, 6098, and consent of instructor.

EAB 7729C Advanced Seminar: Precise Behavioral Management.
Credits: 3

EAB 7739 Advanced Seminar in Behavioral Medicine.
Credits: 3; Prereq. 6 hours of human biology and consent of instructor.

EAB 7799 Advanced Seminar: Applied Analysis of Behavior.
Credits: 3

EAB 7888 Experimental Psychopathology.
Credits· 3; Prereq· EAB 5055, 6098, and consent of instructor.

Experimental Psychology

EXP 3204C Perception and Human Senses.
Credits· 3; Prereq: PSY 2013.
An introductory survey of the human senses and their role in perception, considering how we sense the physical environment and what factors influence our perception of it. An optional laboratory course, EXP 4205L, may be taken concurrently with this course.

EXP 3604 Introduction to Cognitive Psychology.
Credits: 3; Prereq: PSY 2013.
Factors influencing learning, memory, thinking, information processing, and perceiving, and consideration of the methods used to study these phenomenona. An optional laboratory course, EXP 4934L, may be taken concurrently with this course.

EXP 3933 Psychology of Sleep and Dreams.
Credits: 3
The factors that affect sleep: age, deprivation, shifts, day-to-day activities, individual differences, etc., and the effects of sleep variations on performance. Sleep anomalies: insomnia, sleep walking, etc. The meaning of dreams.

EXP 4205C Laboratory in Perception and Human Senses.
Credits: 4; Coreq: EXP 3204C.
Students collect, analyze, and evaluate data on specific problems related to sensory or perceptual abilities. Optional component of EXP 3204. Designed for students preparing for graduate study in psychology.

EXP 4504C Human Memory.
Credits: 3; Prereq: EXP 3604C.
Contemporary theories and data on human memory, with emphasis on the information processing approach

EXP 4635 Thinking.
Credits: 3; Prereq: EXP 3604C.
Examination of the cognitive processes involved in human concept learning, problem solving, decision making and creativity. Consideration of the role of perception, learning and memory, motivation and development in thinking, and individual differences in cognitive skills.

EXP 4934 Laboratory in Cognition.
Credits: 4; Coreq: EXP 3604.
Contemporary laboratory techniques used in the study of learning, memory, thinking, information processing, and perceptual processes. The course is designed for those planning to pursue graduate studies in psychology and is an optional laboratory component of EXP 3604

GRADUATE COURSES

EXP 5105 Sensory Processing.
Credits: 3; Prereq: survey course in sensation and perception.

EXP 5215 Visual Perception.
Credits: 3; Prereq· survey course in sensation and perception

EXP 6098 Literature in Cognition and Perception.
Credits: 3

EXP 6108 A Survey of Sensory Systems.
Credits: 3; Prereq

EXP 6109 Seminar in Sensory Processes.
Credits: 1

EXP 6128 Psychophysiology of Hearing.
Credits. 3

EXP 6209 Seminar: Perception.
Credits: 3

EXP 6527C Retention and Forgetting.
Credits: 3; Prereq: EXP 4504C and STA 3023.

EXP 6607 Research Methods in Sensory Systems.
Credits: 3; max· 6; Prereq: BMS 6512, EXP 6108.

EXP 6609 Seminar: Cognition.
Credits: 3; max: 9, Prereq EXP 4604 or consent of instructor.

EXP 6717C Psychophysics.
Credits: 3; Prereq: EXP 3604C, STA 3023 or consent of instructor.

EXP 6939 Seminar: Current Issues in Cognition and Perception.
Credits: 3; max: 12; Prereq: consent of instructor.

EXP 7129 Seminar in Audition.
Credits: 3

EXP 7689 Research Methods in Cognition and Perception.
Credits: 3; max: 12; Prereq: consent of instructor.

Psychobiology

PSB 3004 Introduction to Physiological Psychology.
Credits: 3; Prereq: PSY 2013.
Biological bases of behavior; structural and functional correlates of sensation, movement, motivation, learning, etc

PSB 4003 Advanced Physiological Psychology.
Credits: 3; Prereq PSB 3004.
Advanced consideration of topics in PSB 3004, with an emphasis on the recent research literature.

PSB 4104C Laboratory in Physiological Psychology.
Credits 4, Prereq: PSB 3004
An introduction to current techniques used in research in physiological psychology.

PSB 4934 Special Topics in Physiological Psychology.
Credits: 3; Prereq: PSY 2013 and either PSB 3004 or consent of instructor.

GRADUATE COURSES

PSB 5065 Biology of Human Behavior.
Credits: 3; Prereq: STA 3023, PSB 3004.

PSB 5115C Advanced Laboratory Topics in Physiological Psychology.
Credits: 3; max: 12; Prereq: PSB 3004 or 6076 and consent of instructor.

PSB 5325 Human Physiological Psychology: Psychophysiology.
Credits: 3; Prereq: PSB 3004 or equivalent or consent of instructor.

PSB 5445 Drug Use and Abuse.
Credits: 3; Prereq: 10 hours of psychology.

PSB 5465 Neurohumors and Behavior.
Credits: 3, Prereq: PSB 3004, STA 3023

PSB 5505 Developmental Psychobiology.
Credits· 3, Prereq: PSB 3004, STA 3023.

PSB 5935 Seminar in Physiological Psychology
Credits: 1 to 3; max: 10; Prereq: PSB 3004, STA 3023

PSB 6067 Human Brain Function.
Credits· 3; Prereq· PSB 6076 or consent of instructor.

PSB 6076 Literature in Physiological and Comparative Psychology.
Credits: 3

PSB 6086 Advanced Psychophysiology.
Credits: 3, Prereq: PSB 5325 or consent of instructor.

PSB 6087 Advanced Physiological Psychology.
Credits: 3; max: 6

PSB 7069 Advanced Seminar in Higher Brain Function.
Credits: 3

PSB 7079 Seminar in Psychophysiology.
Credits: 3; max: 12, Prereq: PSB 5325 or consent of instructor.

PSB 7118 Current Research Methods in Physiological Psychology.
Credits: 3; max: 12.

PSB 7248 Neurobehavioral Relations.
Credits: 3

PSB 7249 Seminar in Neural Mechanisms and Behavior.
Credits: 3; Prereq: PSB 6087.

PSB 7719 Seminar: Neural Mechanisms of Ingestion and Energy Regulation.
Credits: 3

PSB 7817 Information Storage: A Neurobiological Approach.
Credits: 3

Psychology

PSY 2013 General Psychology.
Credits: 3
Introductory course designed to provide an understanding of human behavior through an intensive consideration of Psychological Measurement, Perception, Learning, Memory, Motivation, Emotion, Psychological Testing, Personality, and professions and specialized areas in Psychology In order to provide greater depth to the course, all students are required to participate in research projects (or in prescribed alternative equivalent experience).

PSY 3912 Introduction to Research in Psychology.
Credits· 1 to 3: max. 4, Prereq: PSY 2013, Consent of instructor ††
An introduction to current techniques used in research in the various areas of psychology by participation in on-going research.

Descriptions

PSYCHOLOGY

PSY 4049 Advanced General Psychology.
Credits: 3; Prereq: 12 semester hours of psychology.
Consideration of the roles and functions of the specializations of Psychology in contemporary society together with the historical sources and methodological techniques associated with these aspects of psychology.

PSY 4315 Tests and Measurements.
Credits: 3; Prereq: PPE 3004.

PSY 4905 Individual Work.
Credits: 1 to 3; max. 4; Prereq: At least 12 semester hours of psychology.††
Qualified students and the instructor or supervisor concerned may choose a particular problem for investigation or study from the various areas of psychology. A formal written report of the work is required of the student.

PSY 4970 Senior Thesis.
Credits: 1 to 3; max. 6; Combined credits for PSY 3912, PSY 4905 and PSY 4970 shall not exceed 9 credits to count toward the major. Prereq: 24 hours in Psychology and consent of instructor.††
Qualified students write a formal research proposal in order to enroll in the course; carry out individual research under the supervision of a faculty member and submit a formal written report.

GRADUATE COURSES

PSY 5605 History of Psychology.
Credits: 3; Prereq: 15 semester hours of psychology and STA 3203.

PSY 6268 Topics in Factor Analysis.
Credits: 3; Prereq: EDF 6403, STA 6707, or consent of instructor.

PSY 6328 Test Construction.
Credits: 3

PSY 6508 Quantitative Modeling in Psychology.
Credits: 3; Prereq: permission of instructor.

PSY 6698 Contemporary Systems in Psychology.
Credits: 3; Prereq: PSY 5605.

PSY 6905 Individual Work.
Credits: 1 to 3; max: 12

PSY 6910 Supervised Research.
Credits: 1 to 5††

PSY 6939 Seminar: The Teaching of Psychology.
Credits: 1 to 3; max: 12; Prereq: consent of instructor.

PSY 6940 Supervised Teaching.
Credits: 1 to 5††

PSY 6971 Research for Master's Thesis.
Credits: 1 to 15††

PSY 7980 Research for Doctoral Dissertation.
Credits: 1 to 15††

Psychology for Counseling

PCO 2714 Personal Growth.
Credits: 3
An introduction to the concepts and techniques in psychology which apply to personal growth and development. In order to provide greater depth to the course, all students are required to participate in research projects (or prescribed alternative equivalent experiences).

GRADUATE COURSES

PCO 6059 Psychology of Counseling/Personality.
Credits: 1 to 3; max: 9; Prereq: graduate students in counseling psychology or consent of instructor.

PCO 6316C Evaluation of Intelligence.
Credits: 3; Prereq: consent of instructor.

††Grading is on S-U basis only.

PCO 6317C Evaluation of Personality.
Credits: 3; Prereq: consent of instructor.

PCO 6939 Seminar: Current Topics in Counseling Psychology.
Credits: 3; max: 18; Prereq: PPE 6098, EGC 6416, or consent of instructor.

PCO 7217 Counseling Psychology: Professional Issues and Ethics.
Credits: 3; Prereq: graduate students in counseling psychology or consent of instructor.

PCO 7247 Group Counseling Psychology.
Credits: 3; Prereq: graduate student status and consent of instructor; Coreq: enrollment in counseling practicum.

PCO 7537 Vocational Counseling Psychology.
Credits: 3; Prereq: graduate student status and consent of instructor; Coreq: enrollment in counseling practicum.

PCO 7948 Practicum in Counseling Psychology.
Credits: 4; max: 24; Prereq: written application to the Counseling Psychology Practicum Coordinator.

PCO 7949 Internship in Counseling Psychology.
Credits: 6; max: 24; Prereq: written application to the Counseling Psychology Internship Coordinator.

Psychology of Personality

PPE 3004 Psychology of Personality.
Credits: 3; Prereq: PSY 2013.
Development and organization of personality, description and assessment methods, results of research in personality structure and processes.

PPE 4055 Current Theories and Research in Personality.
Credits: 3; Prereq: PPE 3004.
Issues and problems in description, development and organization of personality.

PPE 4104 Introduction to Humanistic Psychology.
Credits: 3
The contemporary humanistic view of human behavior and experience. Emphasis upon the human potentialities for high level functioning including creativity, self-concept, caring and commitment.

PPE 4204 The Self.
Credits: 3; Prereq: DEP 4115 or PPE 3004.
Origins, developmental organization and change of self in social interaction; methods of study, theory and research.

PPE 4324C Research Methods in Personality Psychology.
Credits: 4, Prereq: PSY 2013, STA 3023, STA 3024 and consent of instructor.
Emphasis on problems of approach and design. Laboratory training in basic experimental techniques and procedures related to an analysis of human behavior.

PPE 4605 Studies of the Person.
Credits: 3; Prereq: consent of instructor.
Seminar designed to examine various topics of current interest in the field of personality development and dynamics.

GRADUATE COURSES

PPE 6059 Seminar in Personality and Counseling Psychology.
Credits: 3; max: 9.

PPE 6098 Literature in Personality.
Credits: 3

PPE 6209 Seminar on the Self.
Credits: 3

PPE 6307 Research Methods in Personality and Counseling I.
Credits: 3; Prereq: PPE 6098 or consent of instructor.

PPE 6308 Research Methods in Personality and Counseling II.
Credits: 3; Prereq: PPE 6098 or consent of instructor.

PPE 7288 Advanced Theories in Personality and Counseling Psychology.
Credits: 3; max: 9.

PPE 7309 Advanced Research Seminar in Personality and Counseling Psychology.
Credits: 1 to 3; max: 12

Social Psychology

SOP 2513 Human Conflict.
Credits: 3
An interdisciplinary study of interpersonal, intragroup, and intergroup conflict. Theories, techniques, and applications to field situations are included.

SOP 3004 Social Psychology.
Credits: 3; Prereq: PSY 2013.
A study of the social factors influencing individual behavior. Consideration of socialization, social influence and conformity, social interaction, decision-making, attitudes and opinions, and related topics.

SOP 3742 Psychology of Women.
Credits: 3
A survey of the research and theory relating to the psychology of women. Course content includes personality, social, and developmental variables.

SOP 4214C Experimental Social Psychology.
Credits: 4; Prereq: SOP 4524.
Laboratory training and basic experimental techniques and procedures used in the investigation of social-psychological processes.

SOP 4404 Attitudes and Attitude Change.
Credits: 3; Prereq: SOP 3004.
The social psychology of attitudes and values, concentrating on how attitudes are defined, measured, formed, and changed. Major emphasis is placed on social psychological theories and research bearing on attitude information and change.

SOP 4524 The Psychology of Small Group Behavior.
Credits: 3; Prereq: SOP 3004.
A consideration of the behavior of individuals as influenced by other individuals and by the relations among individuals.

SOP 4704 Contemporary Issues in Social Psychology.
Credits: 3; Prereq: SOP 3004 or SOP 4524.
A review and discussion of recent issues and advances in social psychology. Contemporary concerns with regard to both theory and research in the laboratory and the community will be the focus of this advanced offering. Example topics to be covered are: moral and value development, altruism, risky shift, prejudice, modeling, deviance and social change.

GRADUATE COURSES

SOP 5115 Theories in Social Psychology.
Credits: 3; Prereq: SOP 4524, STA 3023.

SOP 6069 Advanced Social Psychology I.
Credits: 3; Prereq: SOP 3004, 4524 or equivalent.

SOP 6079 Advanced Social Psychology II.
Credits: 3; Prereq: SOP 6069.

SOP 6099 Literature in Social Psychology.
Credits: 3

SOP 6218C Laboratory in Social Psychology: Attitude Scaling.
Credits: 3; Prereq: SOP 6079.

SOP 6219C Advanced Research Techniques in Social Psychology.
Credits: 3; max: 12; Prereq: consent of instructor.

SOP 6409 Seminar: Attitudes and Social Cognition.
Credits: 3; Prereq: graduate status.

SOP 6509 Seminar: Interpersonal Relations and Group Processes.
Credits: 3; Prereq: graduate status.

SOP 6819 Seminar: Applied Social Psychology.
Credits: 3; Prereq: graduate status.

SOP 6929 Colloquium in Social Psychology.
Credits: 1; max: 8; Prereq: graduate status in social psychology.

SOP 7317 Research Methods in Social Psychology.
Credits: 3; max: 12, Prereq: consent of instructor.

SOP 7318 Multidimensional Scaling for Market and Societal Analysis.
Credits: 3; Prereq: STA 6167 or equivalent and fundamentals of matrix algebra.

SOP 7319 Seminar: Research in Social Psychology.
Credits: 1 to 4; max: 12; Prereq: consent of instructor.

SOP 7339C Applied Research Methods in Social Psychology.
Credits: 3

SOP 7749L Internship in Applied Social Psychology.
Credits: 1 to 5; max: 15; Prereq: graduate standing in social psychology.

PUBLIC RELATIONS
College of Journalism and Communications

INSTRUCTIONAL STAFF 1981-82

Terhune, J.L., Chairman; Anderson, J.W.; Butler, G.A.; Detweiler, J.S.; Ferguson, M.A.; Fregly, M.S.; Hammond, F.A.; Kendall, R.L.; Wellborn, C.G.

The Public Relations program is designed primarily for those planning professional careers in corporate, business, private, and government fields, as well as in agency work. These courses may be taken for elective credit by students in all Upper Division units of the University. Students who are interested in major work in other communications fields are also referred to course offerings under Advertising, Broadcasting and Journalism. Students who have not been admitted to the College of Journalism and Communications must have a 2.5 overall grade point average to enroll in other than the following courses: MMC 1000, MMC 2100, RTV 2000, ADV 3000, and PUR 3000.

PUR 3000 Introduction to Public Relations. F, S, SS.
Credits: 3; Sophomore standing.
The relationship between journalism media and the public, and the principles, methods and means of influencing the public. Public Relations programs will be discussed.

PUR 3101 Editing and Graphics. F, S, SS.
Credits: 3; Prereq: JOU 3100.
Fundamental instruction and practice in essentials of editing, with special emphasis on publications in support of corporate public relations programs. Included are typography, copyreading, headline writing, design and basic production techniques for tabloid format publications.

PUR 4001 Advanced Public Relations. F, S, SS.
Credits: 3; Prereq: PUR 3000; Senior standing in the College of Journalism and Communications; ability to type 30 words per minute.
Analysis of modern techniques of disseminating industrial, business, educational and associational news to the appropriate publics. Special publications, broadcasts, special events, planning and budgeting. Emphasis on current professional practice and public relations campaigns.

PUR 4100 Writing for Public Relations. F, S.
Credits: 3; Prereq: PUR 3000, JOU 3100.
Writing public relations releases for print and broadcast media, speeches, position papers and other assignments commonly found in public relations.

PUR 4103 Business and Technical Communication. F, S, SS.
Credits: 3; Prereq: PUR 3101 or JOU 4200; Senior standing in the College of Journalism and Communications or permission of the instructor.
Writing, editing and production of material in the areas of trade, business, industrial and technical press, with special attention given to style, form and production techniques of magazine format publications.

PUR 4104 Seminar in Magazine Editing. F, S.
Credits: 3; Prereq: Senior standing in the College of Journalism and Communications; PUR 4103 or permission of the instructor.
Analysis of magazines to determine design and style trends. Practical work in depth in production techniques from the viewpoint of the editor. Selection and use of illustrations and use of color. Production of complete packages for three types of magazines, bringing together preceding courses in a practical experience atmosphere.

PUR 4402 Public Relations in Criminal Justice. S.
Credits: 2; Prereq: PR or CJ background or permission of the instructor.
Public relations activities in the field of criminal justice, including public attitudes, public awareness campaigns, community relations, volunteer coordination, and working with the news media.

PUR 4500 Public Opinion Theory and Research. F, S, SS.
Credits: 3; Prereq: Junior standing.
The course will explore the dynamics of public opinion and its measurement, with emphasis on applying public opinion studies to public relations and advertising.

PUR 4905 Individual Problems in Public Relations. F, S, SS.
Credits: 1 to 3; Prereq: At least 10 hours of professional courses and approval of the Chairman.
Students and the instructor concerned will choose a problem or project which will give the student actual experience in his major field.

PUR 4932 Special Study in Public Relations. F, S.
Credits: 2 to 3
Variable content, providing opportunity for advanced study in the principles, processes and effects of Public Relations. (May be repeated for a total of 6 hours.)

PUR 4933 Seminar: Ethics and Problems in Public Relations. F, S.
Credits: 2; Prereq: Open only to Seniors in the public relations sequence near graduation, or on approval of their instructor.
Analysis and investigations of trends, principles, policies, and ethics, of the most effective and enlightened current public relations practice.

PUR 4940 Public Relations Internship. F, S, SS.
Credits: 1 to 3††; Prereq: Minimum of 10 hours of professional courses earned and a 2.5 grade point average. Must have advance approval from academic adviser, department and college offices to receive credit.
Student and instructor will select an appropriate work area related to the field of Public Relations for on-the-job training. Student will work a minimum of three hours on the job for every hour of credit to be received. Progress reports and summary required. May be repeated with change of content up to a maximum of 4 credits.

PUR 4949 Co-op Work Experience. F, S, SS.
Credits: 1††; Prereq: Minimim of 10 hours professional courses earned and a 2.5 GPA. Must have advance approval from academic adviser, department and colleges offices to receive credit.
Practical co-op work experience relating to public relations under approved business, institutional or governmental supervision. May be repeated with changed work program upon departmental approval.

REAL ESTATE AND URBAN ANALYSIS
College of Business Administration

INSTRUCTIONAL STAFF 1981-82

Archer, W.R.; Corgel, J.; Curtis, C.C.; Gaitanis, L.A.; Kraft, J.; Smith, H.C.

Courses numbered 3000 or higher are open only to students with Junior standing or above. Note, however, the specific prerequisites for certain courses. Housing and Home Ownership, REE 3720; 4 credits, is offered by correspondence only.

REE 3043 Real Estate Analysis.
Credits: 4
Principles of real estate decision making within the context of our economic, social, legal, and political-governmental systems.

REE 4100 Real Estate Valuation.
Credits: 3; Prereq: REE 3043.
Approaches and methods of property valuation. Comparable sales analysis, cost-depreciation analysis, and income capitalization are emphasized. A professional appraisal report is required.

REE 4204 Real Estate Financial Analysis.
Credits: 3; Prereq: REE 3043.
Real Estate financial analysis as applied to various types of property. Includes the underwriting process, sources of funds, portfolio problems, and governmental programs. Money and mortgage market analysis and the use of modern creative finance are emphasized.

REE 4313 Real Estate Feasibility Analysis.
Credits: 5; Prereq: REE 3043, REE 4100.
Analysis of real estate projects and markets.

REE 4430 Real Estate Law.
Credits: 3; Prereq: REE 3043 or consent of the instructor.
Legal aspects of real property ownership, development, transfer, and brokerage.

REE 4905 Independent Research.
Credits: 1 to 3; Prereq: Senior standing and previous work in the area selected for research.
Admission is by consent of instructor with approval of the Department Chairman. A written report or reports will be required.

REE 4934 Special Topics.
Credits: 1 to 3; Prereq: Permission of department.
Course providing an opportunity for study in depth of topics not offered in other courses and of topics of special current significance. May be repeated with change of content up to a maximum of 6 credits.

GRADUATE COURSES

REE 6286 Seminar in Real Estate Financial Analysis.
Credits: 3

REE 6305 Seminar in Real Estate Valuation.
Credits: 3

REE 6395 Seminar in Real Estate Investment and Development.
Credits: 3

REE 6609 Seminar in Land Use Controls.
Credits: 3

REE 6756 Seminar in Land Use Analysis.
Credits: 3

REE 6905 Individual Work in Real Estate.
Credits: 1 to 3

††Grading is on S-U basis only.

Descriptions

RECREATION

REE 6910 Supervised Research.
Credits: 1 to 5††

REE 6936 Seminar In Housing Analysis.
Credits: 3

REE 6940 Supervised Teaching.
Credits: 1 to 5††

REE 6971 Master's Research.
Credits: 1 to 15††

REE 7920 Real Estate Research Workshop.
Credits: 3

REE 7980 Doctoral Research.
Credits: 1 to 15††

RECREATION
College of Physical Education, Health, and Recreation

INSTRUCTIONAL STAFF 1981-82

Varnes, P.R., Chairman; Beland, R.; Gamble, D.; Gustke, L.D.; Hall, L.T.; Leilich, R.E.; McCall, G.E.; Regna, J.L.

LEI 2000 Introduction to Recreation and Leisure (Non-Recreation Majors). F, S, SS.
Credits: 2
Provides for the development of an understanding of the various roles that recreation has in our contemporary society and provides students an opportunity to examine recreation as a potential profession.

LEI 2023 Foundations of Leisure Services. F, S.
Credits: 2
This course is designed as an introductory course for and limited to lower division students annd recreation majors. It will focus on system component elements as leisure relates to contemporary society.

LEI 3140 Philosophy and History of Recreation. F, S.
Credits: 2
An overview of the various perspectives of recreation, leisure and play with the intent of providing students a philosophical base on which to interpret the recreation profession.

LEI 3180 Current Trends in Leisure Services. F, S.
Credits: 3
Deals with current development and potential future developments in the area of recreation and leisure services including the identification of resources affecting the leisure area.

LEI 3191 Seminar in Leisure Services. F, S.
Credits: 1
Aids students majoring in Recreation in formulating a personal education and career plan.

LEI 3260 Outdoor Recreation Trends and Issues.
Credits: 2
Examines trends and issues of outdoor recreation relating to such topics as the environment, the ecology, the economy, the American lifestyle and various governmental agencies.

LEI 3320C Leadership and Social Recreation. F, S.
Credits: 3
Leadership principles and planning of conducting social recreation programs.

LEI 3330C Camp Counseling.
Credits: 2
The training of counselors for organized camping, including crafts, nature, cooking, and informal activities.

LEI 3400 Recreation Programs. F, S.
Credits: 3; Prereq: Upper Division status, LEI 3320.
Planning programs and activities for various recreation settings, especially community recreation.

††Grading is on S-U basis only.

LEI 3507C Special Events: Administration and Programming.
Credits: 2
Budgeting, organizing, promoting, planning, and related activities necessary to conduct special recreational events.

LEI 3508C Sports Activities: Administration and Programming. F, S.
Credits: 2
Budgeting, tournament organization, promotion and related activities necessary to conduct sports activities and aquatics in a recreation program.

LEI 3520 Supervision of Leisure Facilities and Personnel. F, S.
Credits: 2
The course highlights to the student the supervisory responsibilities and practices from the standpoint of human relations and leadership in the context of leisure services.

LEI 3540 Management of Leisure Facilities.
Credits: 3
Introduction to leisure time activities including facilities, personnel and programs.

LEI 3600 Planning and Maintenance of Leisure Facilities. F, S.
Credits: 2
Planning for, budgeting for, site selection, layout of and maintenance of recreational facilities.

LEI 3820 Leisure Education and Counseling. F, S.
Credits: 2
Provides the necessary knowledge of Leisure Education and Counseling for recreation undergraduate majors who will be working in the public and therapeutic recreation areas.

LEI 3921 Field Experience in Leisure Services. F, S.
Credits: 3; Prereq. or coreq: LEI 3320 or LEI 3400.
Six hours of weekly laboratory work to arrange. Supervised experience in the conduct of a variety of recreation activities. Normally taken during the third year.

LEI 4500 Administration of Leisure Services. F, S.
Credits: 3
Limited to recreation majors, or those with permission of the instructor. Organizing and administering community and other recreation services, emphasizing problem solving. Normally taken the semester prior to interning.

LEI 4331 Camp Administration and Programming. F, S.
Credits: 2
This course is a study of camp programming and administration of a camp.

LEI 4570 Revenue Resources Management. F, S.
Credits: 3
Identifies the many and varied forms of revenue resources available in recreation and methods of managing that revenue.

LEI 4700C Leisure Services for Special Populations. F, S.
Credits: 3; Prereq: LEI 3400.
Principles and practices in planning and implementing programs in special community-group settings.

LEI 4711 Program Planning and Evaluation in Therapeutic Recreation. F, S.
Credits: 3, Prereq: LEI 4700C, or permission of instructor.
Advanced study in planning programs and evaluation in Therapeutic Recreation

LEI 4760C Leisure, Recreation and the Older Adult. F, S.
Credits: 3
An indepth study of the responsibilities and opportunities in providing recreation services for the older adult.

LEI 4770 Leisure Services for the Socially Deviant. F, S.
Credits: 3
Introduces the student to the various leisure services delivery system that may be utilized as rehabilitative tools with the socially deviant population.

LEI 4880 Evaluation of Leisure Services. F, S.
Credits: 2
Methods, techniques and application of the evaluation process related to the wide variety of leisure services.

LEI 4905 Variable Credit in Leisure Services. F, S, SS.
Credits: 1 to 4; Prereq: Permission of Chairman of the Department
Offered upon request of students to meet special interests which are not adequately provided for in other courses.

LEI 4940 Internship in Leisure Services. F, S, SS.
Credits: 1 to 15††; Prereq: Permission of the instructor. Limited to Recreation majors.
Practical field experience in selected off-campus recreation programs. Normally taken during the last semester prior to graduation.

REHABILITATION COUNSELING
College of Health Related Professions

INSTRUCTIONAL STAFF 1981-82

Muthard, J.E., Chairman; Joiner, J.G.; Saxon, J.P. Roberts, D.L.

Guidance & Counseling

GRADUATE COURSES

EGC 5065 An Introduction to Rehabilitation Counseling. F, SS.
Credits: 3

EGC 5166 Psychological and Sociological Aspects of Rehabilitation. F, SS.
Credits: 3

EGC 6374 Occupational Information, Analysis, Planning and Placement Aspects of Rehabilitation Counseling. F, SS.
Credits: 3

EGC 6375 Vocational Assessment Aspects of Rehabilitation Counseling. S, SS.
Credits: 3

EGC 6376 Medical and Related Aspects of Rehabilitation Counseling. S.
Credits: 3

EGC 6493 Rehabilitation Counseling with the Disabled. F, SS.
Credits: 3

EGC 6693 Seminar: Selected Rehabilitation Topics. F, S, SS.
Credits: 1; maximum: 3.

EGC 6767 Rehabilitation Research. S.
Credits: 3

EGC 6850 Rehabilitation Client Services Practicum. F, S, SS.
Credits. 2, maximum: 4.

EGC 6851 Rehabilitation Counseling Practicum. F, S, SS.
Credits: 2; maximum: 4.

EGC 6853 Advanced Rehabilitation Counseling Practicum. F, S, SS.
Credits: 2, maximum: 4.

EGC 6885 Internship in Rehabilitation Counseling.
Credits. 5

EGC 6905 Individual Work. F, S, SS.
Credits: 1 to 4

EGC 6910 Supervised Research. F, S, SS.
Credits: 1 to 5††

EGC 6940 Supervised Teaching. F, S, SS.
Credits: 1 to 5††

RELIGION
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Creel, A.B., Chairman; Hiers, R.H.; Hill, S.S.; Isenberg, S.R.; Jaberg, R.L. (Emeritus); Mesch, B.; Owen, D.E.; Scudder, D.L. (Emeritus); Stahmer, H.M.; Thursby, G.R.

The following courses currently meet General Education requirements: Humanities: 2001, 2002, 2202, 3321, 3420, 3494, 3500, 3600, 3601; Social Sciences: 2021, 2322.

Students majoring in Religion are required to take a minimum of 9 courses, constituting 27 hours, in Religion or approved cognate courses. A student must offer a concentration of four courses, one of which must be a 4000 level seminar, in either Religions of the West, Religion in America, or Religions of Asia. All majors must take either Hebrew Scriptures (REL 3210) or New Testament (REL 3243), and the Senior Seminar (REL 4933). Religion courses taken in another institution may count toward major credit, subject to the approval of a departmental adviser. For further information, contact the department office, 115 Arts and Sciences Bldg. (115 ASB).

Candidates for honors in Religion must have a minimum upper division grade point average of 3.5 for the last 60 credits and must complete the Senior Seminar (REL 4933) with a grade of B+ or better.

Students interested in the teaching of Religion in secondary schools may take advantage of joint programs between the College of Education and the College of Liberal Arts and Sciences. See the announcement in the College of Education section of the catalogue under "Special Programs" or "English Language Arts" (English/Religion), and for additional information, consult the Office of Student Services, College of Education, Norman Hall.

Graduate minors should be worked out with the respective department advisers in each area.

Religion

REL 2001 Religion in Human Experience, A.
Credits: 3
A study of the religious dimensions of human culture, focusing on the West (Judaism, Christianity, Islam).

REL 2002 Religion in Human Experience, B.
Credits: 3
A study of the religious dimensions of human culture, focusing on Asia (Hinduism, Buddhism, Confucianism, Taoism, Shinto).

REL 2021 The Individual and Religious Experience.
Credits: 3
An investigation of religious ideas and practices and their meaning for the individual.

REL 2202 Survey of Biblical History and Religion.
Credits: 3
Major events in the Biblical period, and basic themes in the Biblical faith.

REL 2322 Patterns of American Religion.
Credits: 3
A look at the major groupings of religion in the United States, how they differ, what they have in common, the various dimensions of each in their interaction, and their roles in the society of the American people.

REL 3134 Religion in Southern Culture.
Credits: 3
Development of religious life in the South through its history, with particular reference to its interaction with regional culture.

REL 3140 Religion and Society.
Credits: 3
The interaction of religion and social institutions, concerning the ways religious groups influence and are influenced by the socio-cultural environment.

REL 3210 Hebrew Scriptures.
Credits: 3
The history, literature and beliefs of the Israelites as reflected in the Biblical texxt, in the light of modern scholarship.

REL 3243 New Testament.
Credits: 3
The ministry and message of Jesus and the developing faith of early Christianity.

REL 3321 Judaism and Christianity.
Credits: 3
An examination of the Jewish-Christian encounter. The origins of Christianity and the historical context of first century Judaism. The self-understanding of each religion regarding human nature, human possibility and the political realm The historical interaction between Judaism and Christianity including how each group symbolized the other, and the practical implications of these representations.

REL 3342 Philosophies of India.
Credits: 3
Aspects of representative systems of thought, with attention to their relation to Indian religious traditions.

REL 3346 Modern Hinduism.
Credits: 3
A study of ways in which Hindus have interpreted and applied teachings of India's heritage to conditions of the modern world.

REL 3420 Contemporary Religious Thought.
Credits: 3
An attempt to discover what contemporary thinkers are saying about religion and the problems of modern life.

REL 3440 Religion and the Modern Mind.
Credits: 3
An examination of the modern outlook, focusing upon conceptual commitments associated with present cultural styles, with attention to certain critical issues for religion.

REL 3494 Human Image in the West.
Credits: 3
Important literary sources for Western self-understanding Hellenic, Roman, Hebraic and Medieval statements will be investigated.

REL 3500 History of Christianity.
Credits: 3
A historical approach to those traditions, personalities, issues, and events that have shaped the growth of Christianity in the Western World.

REL 3591 Christian Mysticism.
Credits: 3
Mysticism as a type of religious thought and practice in Christian tradition.

REL 3600 Introduction to Judaism: Classical Period.
Credits: 3
A multidisciplinary approach to the Jewish experience, focusing on the classical period, from Ezra (450 B.C.E.) through the Rabbinic period to the close of the Middle Ages.

REL 3601 Introduction to Judaism: Modern Period.
Credits: 3
A multidisciplinary approach to the Jewish experience, focusing on the modern period

REL 3620 Philosophies of Judaism.
Credits: 3
An investigation of selected figures and themes in the Jewish philosophical tradition both classical and modern. Various approaches both mystical and rational will be considered May be repeated with change of content up to a maximum of 9 credits.

REL 3695 Jewish Mysticism.
Credits: 3
Mysticism in Judaism in Biblical, Rabbinic, Medieval and Modern periods.

REL 3938 Special Topics in Religion.
Credits: 3
May be repeated with change of content up to a maximum of 12 credits.

REL 4177 Special Topics in Religion and Ethics.
Credits: 3
May be repeated with change of content up to a maximum of 9 credits.

REL 4290 Special Topics in Biblical Studies.
Credits: 3
Advanced study of special topics for students with previous courses in Biblical studies. May be repeated with change of content up to a maximum of 9 credits.

REL 4390 Special Topics in Asian Religions.
Credits: 3
May be repeated with change of content up to a maximum of 9 credits.

REL 4460 Special Topics in Religious Thought.
Credits: 3
May be repeated with change of content up to a maximum of 9 credits.

REL 4690 Special Topics in Jewish Studies.
Credits: 3
Selected figures and topics in the history of Jewish thought. May be repeated with change of content up to a maximum of 9 credits.

REL 4905 Individual Work.
Credits: 1 to 5; Prereq: 9 hours in Religion or consent of the department.
Majors or other advanced undergraduates who wish to supplement regular course work by individual studies under guidance may apply to a member of the faculty for Individual Work. May be repeated with change of content up to a maximum of 9 credits.

REL 4932 Thesis Seminar in Religion.
Credits: 3
Honors level students' option for thesis preparation.

REL 4933 Senior Seminar in Religion.
Credits: 3; Prereq: Junior or Senior standing and permission of the department
Examination of different approaches to the study of Religion.

REL 4936 Special Topics in Religious Studies.
Credits: 3
Advanced study for students with proper preparation of selected topics involving one or more religious traditions May be repeated with change of content up to a maximum of 9 credits.

GRADUATE COURSES

All REL courses listed below may be repeated with change of content up to a maximum of 9 credits, except for REL 5906 for which the maximum is 20 credits.

REL 5178 Special Topics in Religion and Ethics.
Credits: 3

REL 5297 Special Topics in Biblical Studies.
Credits: 3

REL 5395 Special Topics in Asian Religions.
Credits: 3

REL 5491 Special Topics in Religious Thought.
Credits: 3

††Grading is on S-U basis only.

SOCIAL SCIENCES

REL 5696 Special Topics in Jewish Studies.
Credits: 3

REL 5906 Individual Work.
Credits: 1 to 5

REL 5937 Special Topics in Religious Studies.
Credits: 3

These courses in the Religion curriculum are offered in association with other departments: ANT 3241, Anthropology of Religion; ANT 3365, Islamic Civilization; CLT 2371, Religions of the Graeco-Roman World; LIT 3363, Jewish Literature; PHI 3700, Philosophy of Religion; REL 3620, Philosophies of Judaism; and SOC 4211, Sociology of Religion.

Anthropology

ANT 3241 Anthropology of Religion.
Credits: 3
Cross cultural survey of beliefs and practices dealing with the supernatural. Magic and Religion. Conceptualization of the supernatural. Sacred specialists, their functions and social position. Theories of comparative religion in the light of primitive data.

ANT 3365 Islamic Civilization.
Credits: 3
An understanding of Islam's origin and spread; its belief and ritual; its strength as a sociocultural force.

Classics

CLT 2371 Religions of the Graeco-Roman World
Credits: 3
A study of the development, importance, and influence of the ancient religions of the Mediterranean world. All sources read in translation.

English

LIT 3173 Jewish Literature
Credits: 3
A variable content course in aspects of the Jewish literary experience, from the Biblical narrative and Talmudic tales to Yiddish literature and the American Jewish novel.

Philosophy

PHI 3700 Philosophy of Religion.
Credits: 3
A philosophical examination of religious thought and experience

Sociology

SOC 4211 Sociology of Religion.
Credits: 3
The sociological perspective on religions; their ideologies and rituals. Social aspects of the religious, and religious aspects of the social. Organized religions, and religions "outside the sacred walls."

THE SOCIAL SCIENCES
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Doherty, H.J., Chairman; Burns, A.M.; Cox, M.G.; Dupree, H.; Lamme, A.J.; McAlister, L.N.; McGee, J.M.; Miller, G.M.; Niddrie, D.L.; Owen, D.E.; Pleasants, J.M.; Sowell, D.L.; Sturgill, C.C.; Teague, M.C.; Wilson, H.A.

In satisfaction of the general education requirements in the social sciences, this department offers courses titled American Institutions. They are designed to provide an understanding of the great trends and movements of the twentieth century with special reference to American culture and institutions. By providing a synthesis cutting across the traditional disciplines of anthropology, economics, history, political science, geography, and sociology, the department attempts to provide students an opportunity to acquire a balance of breadth and depth of knowledge with which they may better approach an understanding of the modern world.

SSI 2110 American Institutions I. F.
Credits: 3
An interdisciplinary introduction to the study of the civilization of the United States, emphasizing the concepts of culture and institutions and utilizing the techniques and findings of the social sciences.

SSI 2120 American Institutions II. S.
Credits: 3
Continuation of the interdisciplinary study of the civilization of the United States, with some comparative reference to other cultures.

SSI 2114-2124 American Institutions Honors. 2114-F. 2124-S.
Credits: 3 each
An interdisciplinary study of American civilization specially structured to the abilities of qualified students. Admission by invitation only.

SSI 3127 American Institutions: Special Topics.
Credits: 3
Interdisciplinary study of topics related to American Institutions. Topics announced as offered.

SSI 3262 Utopias: A Quest for Social Reform and Political Ideals.
Credits: 3
A study of various types of utopias throughout history which will give students an opportunity to study, analyze, and discuss the concepts underlying them. Emphasis upon study of the political, economic and sociological organization of each of the planned communities.

SOCIOLOGY
College of Liberal Arts & Sciences

INSTRUCTIONAL STAFF 1981-82

Akers, R.L., Chairman; Beeghley, L.; Berardo, F.M.; Bock, E.W.; Frazier, C.E.; Gorman, B.L.; Henretta, J.C.; La Greca, A.J.; Lanza-Kaduce, L.M.; Leslie, G.R.; Radelet, M.L.; Rexroat, C.A.; Richards, P.J.; Robbins, C.L.; Shehan, C.; Streib, G.F.; Terry, W.C.; Thomas C.W.; Vandiver, J.S.; Vera, H.; Wood, C.H.

Joint and affiliate appointments:

Arey, S.; Beaulieu, L.; Carter, K.; Crandall, L.; Duncan, P.; McCoy, T.L.; Soares, G.A.D.; Warheit, G.J.

A sociology major requires 27 semester hours of coursework in sociology, including required courses: SOC 2000, SOC 4500, and SOC 4640. Additional sociology courses to complete the 27 hours minimum may be selected by students to match their interests in different substantive career areas and their career plans. At least 21 semester hours of sociology credit must be in courses numbered 3000 or higher. Additionally, STA 3013 is required.

All sociology majors and those considering sociology as a major are encouraged to consult with departmental advisors; for information apply to GPA room 3219.

HONORS IN SOCIOLOGY

Sociology majors may earn departmental honors after certification by the Coordinator of the Honors Program in Sociology and approval by the departmental chair by: a) completing with a grade of "B" or better two graduate-level seminars in sociology or the two courses in Masterpieces in the Social Sciences (SSI 4601 and 4602), b) achieving a grade point average in all sociology courses taken of 3.5 or higher and an overall upper-division grade point average of 3.5 or higher, and c) completing an approved senior honors thesis or project under the direction of a member of the sociology faculty.

Graduation with honors is not automatic and must be approved by the department. Admission to the program is granted to students who have completed at least nine semester hours in sociology with a gradepoint average of 3.5 or higher.

Students interested in entering the honors program in sociology should consult with the Coordinator of the Honors Program in Sociology.

Demography and Human Ecology

DHE 4101 Population.
Credits: 3; Prereq: SOC 2000.
Characteristics and trends in the population of the contemporary world. Historical and current growth patterns related to resource conservation, food production, and modernization in various regions of the world.

DHE 4200 Population Policy.
Credits: 3
Review of past and current U.S. population policies. Formulation of policy in the light of numerous criteria and goals. Direct and indirect consequences of selected policies, their implementation and evaluation.

GRADUATE COURSES

DHE 6110 Seminar in Population.
Credits: 3

DHE 6205 Population Policy.
Credits: 3

DHE 6453 Demographic Processes and Methods.
Credits: 3

Marriage and Family

MAF 2200 Marriage and the Family. F, S, SS.
Credits: 3
Development of masculine and feminine roles. Recent changes in premarital interaction: dating, sexual involvement, coed dorm living, living together. Marital adjustment and parenthood. Alternative life styles, including group marriage, communal living, and open marriage.

MAF 4400 The Sociology of Human Sexuality.
Credits: 3; Prereq: SOC 2000.
Social sources and social consequences of ideas concerning human sexuality as they emerge from sociological study of Western and non-Western thought.

MAF 4501 The American Family.
Credits: 3; Prereq: SOC 2000.
The impact of rapid social changes upon families: racial, class, and ethnic variations. The liberation of women and changing family roles. Alternative life styles and the future of the family.

MAF 4510 Comparative Family Systems.
Credits: 3; Prereq: SOC 2000.
An intercultural and historical analysis of the family. Emphasizes development of the Western family. U.S. kinship system within the historical and intercultural context.

GRADUATE COURSES

MAF 6405 The Sociology of Human Sexuality.
Credits: 3

MAF 6507 The American Family.
Credits: 3

MAF 6515 Comparative Family Systems.
Credits: 3

MAF 6601 Family Theories.
Credits: 3

MAF 6611 Family Research.
Credits: 3

Social Sciences — Interdisciplinary

SSI 4601 Masterpieces in Social Science I.
Credits: 4; Prereq: Advanced standing and some work in the social sciences.
Reading of pre-twentieth century classics in economics, history, political science, sociology, and cultural anthropology.

SSI 4602 Masterpieces in Social Sciences II.
Credits: 4; Prereq: Advanced standing and some work in social sciences.
Reading of twentieth century classics in economics, history, political science, sociology, and cultural anthropology.

Sociology

SOC 2000 Principles of Sociology. F, S, SS.
Credits: 3
Introduction to sociology as a social science, and analysis of American society. Culture, socialization, deviance, bureaucracy, population, urbanization, social stratification, and minorities.

SOC 2020 Social Problems. F, S, SS.
Credits: 3
The development, analysis, and treatment of social problems. Crime, poverty, prejudice and discrimination, pollution and environmental despoilation, drug abuse, mental illness, and others. Special attention to factors in U.S. society that cause social problems.

SOC 3022 Poverty.
Credits: 3; Prereq: SOC 2000.
The social, cultural, economic, political, and psychological implications of being poor. Sources of poverty in the structure and operation of society: consequences of poverty for society. Current and feasible policies for easing the problem. Basically, a survey of the contemporary United States, but with references to the U.S. past and to other nations both developed and undeveloped.

SOC 3110 Deviance.
Credits: 3
An introduction to the sociology of deviance. Special emphasis on the definition of deviance, types of deviant behavior, differential labeling and institutional processing, implications of social control.

SOC 3251 Sociology of Mental Health and Illness.
Credits: 3; Prereq: SOC 2000.
A sociological perspective on psychosocial distress, mental illness, the mentally ill, and those who care for them. Social correlates of and societal responses to mental illness.

SOC 3300 Community Growth and Change.
Credits: 3
Analysis of community power, community change and alternative community structures. Historical influences and implications for the future.

SOC 3310 Urban Sociology.
Credits: 3; Prereq: SOC 2000 or consent of department.
The development of cities, and their spatial and social structure. Critical problems and solutions. Integration of people in the social setting. Social implications of city planning.

SOC 3320 Rural Sociology.
Credits: 3; Prereq: SOC 2000 or consent of department.
The organization of rural societies and rural institutions. Modernization and social change. Special attention to Third World nations.

SOC 3331 Latin American Societies.
Credits: 3
Latin American culture and social structure. Historic, geographic, economic, social, and population characteristics of Latin American nations. Spanish, Portuguese, English, and American exploitation of Latin America.

SOC 3745 Minorities in American Society.
Credits: 3
Sociological analysis of the structure, social processes, and efforts to effect change, of racial, ethnic, and religious minorities.

SOC 3830 Society and the Individual.
Credits: 3; Prereq: SOC 2000.
Relation of the individual to his social environment with special reference to person perception, self formation, self disclosure, attitude formation and change, and group structure and processes. Social forces that shape the lives of individuals, and how individuals adjust to modern society.

SOC 4001 Advanced General Sociology.
Credits: 3; Prereq: 9 hours of sociology.
Intensive study at an advanced level of the general principles of sociology.

SOC 4040 Special Study in Sociology.
Credits: 3; Prereq: 9 hours of sociology.
Pro-seminar study on specialized topics. May be repeated for credit with change of content for a maximum of 12 hours.

SOC 4130 Juvenile Delinquency.
Credits: 3; Prereq: SOC 2000.
Theories and research on delinquency. Sociological analysis of the juvenile justice system.

SOC 4150 Criminology.
Credits: 3; Prereq: SOC 2000.
Nature and causes of crime and criminality. Sociological analysis of criminal law and criminal justice agencies. Effects on the individual of being defined as criminal.

SOC 4211 Sociology of Religion.
Credits: 3; Prereq: SOC 2000.
The sociological perspective on religions; their ideologies and rituals. Social aspects of the religious, and religious aspects of the social. Organized religions, and religions "outside the sacred walls."

SOC 4221 Political Sociology.
Credits: 3; Prereq: SOC 2000.
Political behavior and governmental institutions, surveyed through such core sociological concepts as power, ideology, values, communication, personality, organization, class and class conflict. Some U.S. emphasis, but primarily a cross-national survey.

SOC 4230 Medical Sociology.
Credits: 3; Prereq: 9 hours of sociology.
Effects of group characteristics in the causation, amelioration, and prevention of mental and physical illness and social influences in medical education, medical practice, and hospital administration.

SOC 4241 Social Gerontology.
Credits: 3; Prereq: SOC 2000.
Social and personal conditions of post-retirement years; family and housing patterns, income, leisure, health, group processes, and evaluation of institutional care for the aged.

SOC 4243 Sociology of Death and Survivorship.
Credits: 3
The sociological dimensions of death, bereavement, and widowhood; ritualistic customs and behavior associated with death on both intra-and cross-cultural bases; contemporary issues associated with death-related phenomena; social and environmental factors affecting survivor adaptation.

SOC 4262 Occupations and Professions.
Credits: 3; Prereq: E.G. SOC 2000.
Work as a human activity. Occupations and professions as mediators between individuals and society. The occupational world. Work and its organization in relation to power, deviance, health, aging and other social phenomena.

SOC 4410 Social Inequality.
Credits: 3; Prereq: SOC 2000.
The unequal distribution, among individuals and groups of wealth, power, and prestige; the effect of class systems upon society; the effect of class membership on individuals; social mobility.

SOC 4422 Complex Organizations.
Credits: 3; Prereq: 12 hours of sociology or equivalent foundation in Educational Administration, Industrial and Systems Engineering, Management, or Political Science.
The behavior of individuals and systems in formal organizations; bureaucratic models; government, hospital, church, school, industry, etc., as manifestations of a common principle.

SOC 4432 Collective Behavior and Social Movements.
Credits: 3; Prereq: SOC 2000.
Panic, riot, crowd, mob, fad, fashion, audience, public and public opinion as mass behavior. Reform, protest, cult, revolution and other movements. Individual and societal implications.

SOC 4463 Development and Social Change.
Credits: 3; Prereq: SOC 2000.
Cultural, social, and demographic causes and consequences of development. Modernization, dependency, ideology, and conflict.

SOC 4500 Methods of Social Research.
Credits: 4
Introduction to the scientific method and its application to social science research. Research design, data collection, and selected topics related to data analysis and interpretation. (No statistics).

SOC 4620 Comparative Sociology.
Credits: 3; Prereq: Senior standing.
Analysis of regularities and differences among societies. The importance of cross-societal research for building sociological theories.

SOC 4640 Development of Sociological Thought.
Credits: 3; Prereq: 6 hours of sociology.
Comparative study of the major ideas of the principal contributors to the development of sociology. Emphasizes relevance of these ideas to contemporary social thought and current social issues.

SOC 4720 Black America: Current Problems.
Credits: 3; Prereq: SOC 3745.
A survey of social conditions, social institutions, and group leadership among Afro-Americans today.

SOC 4831 Personality and Social Structure.
Credits: 3; Prereq: SOC 3830 or equivalent.
The impact of social structure upon the statuses and roles of individual human beings. Personality development, role behavior, adult socialization, self image, and self evaluation; and the effects of assigning persons to different social positions.

SOC 4905 Individual Work. F, S, SS.
Credits: 1 to 4; Prereq: 9 hours of sociology and consent of department.
Designed to permit students to work in areas not covered in regularly scheduled courses. May be repeated for credit up to 8 hours with change of content.

GRADUATE COURSES

SOC 5905 Individual Work.
Credits: 1 to 4

SOC 5933 Special Study in Sociology.
Credits: 3

SOC 6050 Advanced General Sociology.
Credits: 3

SOIL SCIENCE

SOC 6115 Deviance.
Credits: 3

SOC 6135 Juvenile Delinquency.
Credits: 3

SOC 6145 Sociology of Law.
Credits: 3

SOC 6151 Theories of Crime and Deviance.
Credits: 3

SOC 6155 Criminology.
Credits: 3

SOC 6175 Research Problems in Deviance.
Credits: 3

SOC 6225 Sociology of Politics.
Credits: 3

SOC 6237 Health Services Organizations.
Credits: 3

SOC 6244 Sociology of Death and Survivorship.
Credits: 3

SOC 6246 Social Gerontology.
Credits: 3

SOC 6247 The Sociology of the Aged.
Credits: 3

SOC 6266 Occupations and Professions.
Credits: 3

SOC 6312 Urban Ecology.
Credits: 3

SOC 6315 Metropolitan Growth and Development.
Credits: 3

SOC 6336 Latin American Societies.
Credits: 3

SOC 6337 Seminar in Contemporary African Societies.
Credits: 3

SOC 6415 Social Inequality.
Credits: 3

SOC 6426 Complex Organizations.
Credits: 3

SOC 6435 Collective Behavior and Social Movements.
Credits: 3

SOC 6466 Latin American Development.
Credits: 3

SOC 6501 Methods of Social Research.
Credits: 4

SOC 6502 Social Research Methods.
Credits: 3

SOC 6506 Survey Research.
Credits: 3

SOC 6520 Quantitative Research Methods.
Credits: 3

SOC 6545 Qualitative Research Methods.
Credits: 3

SOC 6606 Contemporary Sociological Theory.
Credits: 3

SOC 6625 Comparative Sociology: Theory and Methods.
Credits: 3

SOC 6630 Theory Construction.
Credits: 3

SOC 6646 Development of Sociological Thought.
Credits: 3

SOC 6647 Classical Sociological Theories.
Credits: 3

††Grading is on S-U basis only.

SOC 6748 Minorities.
Credits: 3

SOC 6808 Symbolic Interaction.
Credits: 3

SOC 6832 Personality and Social Structure.
Credits: 3

SOC 6905 Individual Work.
Credits: 1 to 4

SOC 6910 Supervised Research.
Credits: 1 to 5††

SOC 6940 Supervised Teaching.
Credits: 1 to 5††

SOC 6941 Internship in Applied Sociology.
Credits: 3

SOC 6942 Applied Social Research Project.
Credits: 3

SOC 6971 Master's Research.
Credits: 1 to 15††

SOC 7235 Social Factors in Mental Health and Illness.
Credits: 3

SOC 7285 Research in Educational Sociology.
Credits: 3

SOC 7657 Sociology of Knowledge.
Credits: 3

SOC 7933 Special Study in Sociology.
Credits: 3

SOC 7935 Advanced Study in Sociology.
Credits: 3

SOC 7980 Doctoral Research.
Credits: 1 to 15††

SOIL SCIENCE
College of Agriculture

INSTRUCTIONAL STAFF 1981-82

Eno, C.F., Chairman; Blue, W.G.; Berkheiser, V.E.; Brown, R.B.; Caldwell, R.E.; Carlisle, V.W.; Collins, M.E.; Comerford, N.B.; Graetz, D.A.; Herbert, J.H.; Hubbell, D.H.; Mansell, R.S.; Myhre, D.L.; Popenoe, H.L.; Pritchett, W.L.; Rao, P.S.C.; Rhue, R.D.; Rothwell, D.F.; Sartain, J.B.; Stone, E.L.; Street, J.J.; Volk, B.G.; Yuan, T.L.

SOS 3003 The Soil—A Dynamic Multiple Resource. SS.
Credits: 1
General background course for students interested in primary and secondary education, real estate, landscape architecture, and others who wish to gain an appreciation of soils as a living resource in our environment. Materials presented will be relevant to the use of soils for a wide variety of urban, industrial, agricultural, and recreational purposes. Not available for major credit.

SOS 3022C General Soils. F, S.
Credits: 4; Prereq: CHM 2040.
Fundamentals of soil science emphasizing their physical, chemical, and biological properties in relation to plant growth.

SOS 3215C Agriculture and Environmental Quality. S, SS.
Credits: 3
Analysis of effects of agriculture on environmental quality; topics include agricultural sources of non-point pollution (fertilizers, pesticides), land application of municipal sewage, utilization of wetlands, management of agricultural organic wastes, utilization of wastes for fertilizer and as sources of energy, current and future energy use in the food system, and world population growth and food production.

SOS 4115 Fertilizers and Soil Fertility. S.
Credits: 3; Prereq: SOS 3022.
Formulation, manufacture, and use of commercial fertilizers with reference to economical aspects, methods of application, and effects on soil reactions.

SOS 4231C Soils and Land Use. SS.
Credits: 3; Prereq or Coreq: SOS 4715 and SOS 4732.
Soil as a non-renewable resource; suitabilities and limitations of soils for different uses; use of soil surveys, laboratory data, and on-site investigations in planning the use and management of land; soil erosion and its effects; farmland retention.

SOS 4303C Soil Microbiology. F.
Credits: 3; Prereq: SOS 3022 and APB 2150.
Occurrence and activities of soil microorganisms and their influence on soil productivity.

SOS 4404C Soil Chemistry. F.
Credits: 3; Prereq: SOS 3022 and CHM 2042.
Fundamental relationships of the soil chemical factors and plant growth. The effect of organic matter, soil colloids, cation exchange, acidity, and liming on plant nutrient availability.

SOS 4602C Soil Physics. F.
Credits: 3; Prereq: SOS 3022, PHY 2004.
Physical properties of soil which influence the environment of plant roots and consequently the growth of plants. Emphasis is placed upon physical principles governing the movement and retention of water in the root zone of the soil profile. Attention is also given to fundamental concepts of air, nutrient, and heat transport in soil.

SOS 4715 Soil Genesis and Classification. S.
Credits: 3; Prereq: SOS 3022 and GLY 2015.
Morphology of soils, pedogenic processes, factors of soil formation, soilscapes and soil bodies, soil taxonomy, and interpretations of soil maps.

SOS 4718 Soils of Florida. F.
Credits: 2; Prereq: SOS 3022 and SOS 4715, or consent of instructor.
Distribution and evaluation of Florida soils for agricultural, residential, industrial, and recreational uses. Basic geological relationships and factors of formation determining profile characteristics. Field trip required.

SOS 4732C Soil Survey. S.
Credits: 3; Prereq: SOS 3022.
Nature, purposes, and uses of soil surveys. Preparation of soil legends, detailed mapping of an assigned area, and completion of a soil map and survey report.

SOS 4905 Individual Work. F, S, SS.
Credits: 1 to 2; Maximum of 3 credits; Prereq: 8 credits of soils and permission of the instructor.
Selected topics for qualified students.

SOS 4941 Full Time Practical Work Experience in Soil Science. F, S, SS.
Credits: 1 to 3; S-U Grade only. Prereq: Prior arrangement with adviser, approval of Department Chairman and Dean.
Practical work must be a new experience and related to field of study.

GRADUATE COURSES

SOS 5132 Tropical Soils.
Credits: 2

SOS 6136 Soil Fertility.
Credits: 3

SOS 6233C Forest Soils.
Credits: 3

SOS 6323 Soil Microbiology.
Credits: 2

SOS 6325L Soil Microbiology Laboratory.
Credits: 2

SOS 6414C Soil Chemistry.
Credits: 4

SOS 6418 Micronutrients in Soils.
Credits: 2

SOS 6424C Laboratory Methods of Soil Chemical Analysis.
Credits: 3

SOS 6444C Soil Organic Matter.
Credits: 3

SOS 6454C Colloidal and Physical Chemistry of Soils.
Credits: 4

SOS 6464C Soil Mineralogy.
Credits: 4

SOS 6622 Soil Physics.
Credits: 3

SOS 6717 Soil Genesis and Classification.
Credits: 3

SOS 6752 Morphology of Florida Soils.
Credits: 1

SOS 6905 Non-Thesis Research.
Credits: 1 to 4

SOS 6910 Supervised Research.
Credits: 1 to 5††

SOS 6931 Seminar.
Credits: 1

SOS 6932 Topics in Soils.
Credits: 3

SOS 6940 Supervised Teaching.
Credits: 1 to 5††

SOS 6971 Master's Research.
Credits: 1 to 15††

SOS 7980 Doctoral Research.
Credits: 1 to 15††

SPEECH
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Abbott, T.B., Chairman; Abbott, T.B., Coordinator of Graduate Studies; Rothman, H.B., Coordinator of Undergraduate Studies; Abbott, T.B.; Brown, D.R.; Brown, W.S., Jr.; Bzoch, K.R.; Carpenter, R.H.; Clark, A.J.; Cutler, W.H.; Gerhardt, K.J.; Goldstein, L.P.; Hammer, L.C.; Hicks, D.M.; Hollien, H.F.; Jensen, P.J.; Kemker, F.J.; Ketrow, S.M.; Kricos, P.B.; LaPointe, L.L.; Lombardino, L.J.; Markel, N.N.; Mutch, P.J.; Nattress, M.P.; Rothman, H.B.; Schmidt, P.L.; Scholes, R.J.; Scroggie, E.; Teas, D.C.; Waldron, C.M.; Webb, L.M.; Williams, D.E.; Williams, W.N.

SPEECH MAJOR

Students majoring in speech are expected to complete a minimum of approximately 34 hours of acceptable courses in the department as well as the College requirements for graduation. Majors are advised to work out a planned program with a Speech Department advisor in their major area (speech language pathology, audiology, communication studies, phonetic sciences, or behavioral communication). When signed by the department advisor the planned program will constitute the student's contract for graduation.

Regardless of area specialization, all students majoring in Speech shall satisfactorily complete SPC 2300, Introduction to Speech Communication, or its equivalent.

Transfer students must satisfactorily complete not fewer than 20 credit hours in Speech at the University of Florida to complete a major in the Department.

MAJOR HONORS PROGRAM

To be eligible for admission into the Departmental Honors program, the student must have a GPA of 3.2 overall and in Speech, and must have completed at least 12 credits in Speech. To graduate with Departmental Honors, the student must have GPA of 3.3 in the major and 3.5 average for a minimum of 3 credits in SPC 4931, Honors in Speech.

Communication

COM 4110 Seminar in Communication Contexts. S.
Credits: 3; Prereq: SPA 2300 and consent of instructor, repeatable up to 12 hours.
Explores the role of speech communication in such contexts as organizations, the family, and clinical situations. May be repeated with change of content.

GRADUATE COURSES

COM 6121 Seminar — Organizational Speech Communication.
Credits: 3

COM 6300 Introduction to Graduate Study.
Credits: 3

COM 6318 Measurement in Speech Communication.
Credits: 3

COM 6350 Methods of Theory Construction in Speech.
Credits: 3

Linguistics

LIN 2701 Introduction to Psycholinguistics. F, S, SS.
Credits: 2; Prereq: SPC 2300.
An introduction to the history, scope, problems and present state of the psychology of language. Includes survey of theories and methods of the several disciplines concerned with the scientific study of language.

LIN 2711 Phonetic Theory. F, S, SS.
Credits: 3; Prereq: SPC 2300.
An introduction to the distinctly human processes of speech production and perception, including a broad treatment of the physiology of the systems, the nature of the phonetic code and the acquisition of speech.

LIN 3200 Phonetic Transcription. F, S, SS.
Credits: 2; Prereq: SPC 2300.
Intensive training in the use of the International Phonetic Alphabet (IPA) for transcribing phonetic elements of General American English.

LIN 3700 Language and the Brain. F.
Credits: 2
How sentences are produced, understood, and remembered by the human language user. Linguistic studies of aphasia, mental retardation, and selected communicative skills such as reading will be considered.

LIN 4290 Contemporary Issues in Phonetic Sciences. S.
Credits: 3; Prereq: SPA 2711 and 2701.
Designed to explore current topics in Phonetic Sciences, e.g., Speaker Identification, Speech Processes, Models of Speech Production/Perception. Discussions of the selected topic will include: background information, current status, experimental questions, methodologies and future consideration for research.

GRADUATE COURSES

LIN 5231 Advanced Phonetics and Phonemics.
Credits: 3

LIN 5715 Language Acquisition.
Credits: 3

LIN 6705 Psycholinguistics.
Credits: 3

LIN 6716 Child Language.
Credits: 2

LIN 7195 Seminar in Neurolinguistics.
Credits: 3

LIN 7295 Seminar in Experimental Phonetics.
Credits: 2

Speech Communication

SPC 2050 Voice and Articulation. S.
Credits: 2
Designed to establish good habits of speech via study of voice and articulation disorders. Includes practice in overcoming speech problems.

SPC 2260 Criticism and Interpretation of Oral Discourse. F, S.
Credits: 2
Concerned with aesthetic and critical judgments of speech. Examination of the act of speech in a variety of performance situations. Special emphasis is placed on how one judges the quality of oral interpretation, the voice, and aesthetic dimensions of the speaker/audience relationship.

SPC 2300 Introduction to Speech Communication. F, S, SS.
Credits: 4
An introduction to the principles and procedures that promote effective communication. Concerned with the functions that speech communication serves. Examination of the various contexts in which communication occurs and constraining factors that affect communication.

SPC 2330 Introduction to Nonverbal Communication. F, SS.
Credits: 2; Prereq: SPC 2300.
Survey of the various modes of communicating nonverbally, including use of the voice, body and eyes, physical appearance, touch, distancing, time usage and manipulation of the environment. Examination of the role of nonverbal communication in various contexts and in relation to verbal communication. Practical experience in observing and analyzing nonverbal cues.

SPC 3210 Theories of Human Communication. F.
Credits: 4; Prereq: SPC 2300 and 8 credits in speech.
A thorough examination of theoretical approaches to human communication. Concerned with understanding how theory and research contribute to knowledge in the speech discipline. Intended to provide synthesis of material in speech major core.

SPC 3250 General Semantics in Spoken Language. S.
Credits: 3; Prereq: SPC 2300.
Investigation of problems implicit in oral language usage through the study of general theory of symbols.

SPC 3301 Interpersonal Communication. F, S.
Credits: 3; Prereq: SPC 2300.
Examines the function of communication in the development and maintenance of dyadic, interpersonal relationships. Focuses on attraction, interpersonal competency, conflict resolution, relational and intimate communication.

SPC 3305 Creative Communication: Persons and Interactions. S, SS.
Credits: 2; Prereq: SPC 2300.
A course employing humanistic learning processes to develop open, accepting and spontaneous interpersonal communicative relationships.

††Grading is on S-U basis only.

Descriptions

SPEECH

SPC 3440 Group Communication Processes. S.
Credits: 3; Prereq: SPC 2300.
Basic theory and research on the role of communication in small group discussion, examining information search, debate, and decision-making as communication processes. An introduction to the area of small group communication.

SPC 3513 Argumentation. F, S.
Credits: 3; Prereq: SPC 2300.
Study of principles of argumentation as they are applied in oral discourse; analysis of controversial propositions, evidence and modes of reasoning.

SPC 3541 Persuasion. F, S.
Credits: 3; Prereq: SPC 2300.
Investigation of the persuasion function of human communication. Concerned with the context in which successful persuasion occurs and the variables that affect influence attempts.

SPC 3594 Intercollegiate Debate. F, S.
Credits: 1 to 6; Prereq: Satisfactory completion of one quarter of intercollegiate debate participation at the University of Florida before first registration in this course.
Analysis of propositions of fact, policy, and definition; library research methods; formal debate structure; participation in intercollegiate debate. May be repeated for a maximum of 4 credits.

SPC 3601 Public Speaking. F, S, SS.
Credits: 4; Prereq: SPC 2300 or consent of Department Chair.
Theory and practice in public speaking. Special consideration of audience and situational adaptation, support and organization of ideas, audience attention, and effective delivery.

SPC 3605 Speechwriting. F, S, SS.
Credits: 3; Prereq: SPC 2300.
Consideration of and practice with word choice and work arrangement as sources of style that influence memorability, credibility, and ease and accuracy of comprehension.

SPC 3680 Rhetorical Criticism. S.
Credits: 3
Exploratory readings and analysis of a spectrum of empirical and speculative theorists on the nature, practice, and criticism of oral discourse with persuasory intent.

SPC 3710 Patterns of Intercultural Communication. F, S, SS.
Credits: 3; Prereq: SPC 2300.
Exploration of practices, trends, and difficulties of communicating across cultural boundaries; investigation of guidelines by which cross-cultural communication problems can be mitigated.

SPC 3721 Interracial Communication. F, S.
Credits: 3; Prereq: SPC 2300.
Designed to promote better interracial understanding and interaction among students through the study of the theoretical aspects of interracial communication and through actual student participation in interracial discussion groups.

SPC 4514 Seminar in Evidence. S.
Credits: 3; Prereq: SPC 3513.
Advanced study in theories of argument, with emphasis on pragmatic and ethical considerations in the application of the art.

SPC 4540 Persuasion and Opinion Formation. S.
Credits: 3; Prereq: SPC 2300 and consent of instructor.
Advanced studies in theories of persuasion and investigation of how persuasive communication shapes public opinion. Special consideration given to messages aimed at creating or changing public opinion on contemporary, controversial issues.

††Grading is on S-U basis only.

SPC 4620 Great Debates in American Life. S.
Credits: 3; May be repeated with change of content up to a maximum of 9 credits.
Survey of the public speaking in major controversies related to political, social and intellectual life in America.

SPC 4631 Language and Image in Political Communication. F.
Credits: 3
A study of symbolic sources of rhetorical effectiveness as employed in various genres of communication in political contexts.

SPC 4905 Individual Study. F, S, SS.
Credits: 1 to 3; Available by permission of instructor and Department Chair.
A project, reading or research course. May be repeated with change of content up to a maximum of 6 credits.

SPC 4931 Honors in Speech. F, S, SS.
Credits: 3; Prereq: A 3.2 GPA overall in Speech, and must have completed at least 12 hours in speech.
Course will focus on some current investigation in speech and will require an original contribution from each student. Content varies from term to term. May be repeated for a maximum of 8 credits.

GRADUATE COURSES

SPC 5149 Applications of Digital Computers to Speech Research.
Credits: 2

SPC 5335 Nonverbal Communication.
Credits: 4

SPC 5610 Persuasion in Social Movements.
Credits: 3; Maximum of 9 credits.

SPC 5631 Theories of Political Communication.
Credits: 3

SPC 5905 Special Topics.
Credits: 1 to 4; Maximum of 7 credits.

SPC 6218 Seminar: Human Communication Theory.
Credits: 3; Maximum of 9 credits.

SPC 6239 Studies in Rhetorical Theory.
Credits: 3; Maximum of 9 credits.

SPC 6253 Principles and Theories of General Semantics.
Credits: 3

SPC 6493 Theories of Small Group Communication.
Credits: 3

SPC 6545 Studies in the Processes of Influence.
Credits: 3

SPC 6619 Seminar in American Public Address.
Credits: 3

SPC 6682 Rhetorical Criticism.
Credits: 3

SPC 6715 Seminar in Intercultural Communications.
Credits: 3

SPC 6905 Individual Study.
Credits: 1 to 8; Maximum of 10 credits.

SPC 6910 Supervised Research.
Credits: 1 to 5††

SPC 6971 Master's Research.
Credits: 1 to 15††

SPC 7190 Seminar in Communication Processes and Disorders.
Credits: 2

SPC 7937 Seminar in the Philosophy of Speech Communication.
Credits: 3; Maximum of 9 credits.

SPC 7980 Doctoral Research.
Credits: 1 to 15††

Speech Education

SED 4335 Teaching Speech in the Secondary Schools. F, S, SS.
Credits: 3; Prereq: 6 hours of Speech or consent of instructor.
An analysis of instructional methods and materials in speech at the secondary school level. Designed as a practical guide for the teacher of speech.

EEX 4141 Lab: Methods, Materials and Law in Speech Pathology and Audiology in Public Schools. S.
Credits: 1; Prereq: Introductory courses in articulation, voice, language and stuttering.
To provide the student with the necessary information to establish or assume responsibility for language/speech programs in the public schools.

GRADUATE COURSES

SED 5340 Teaching Speech in Higher Education.
Credits: 3

SED 6943 Internship in College Teaching.
Credits: 2; Maximum of 6.

Speech Pathology and Audiology

SPA 2013 Introduction to Laboratory Techniques in Speech. S.
Credits: 2; Prereq: SPC 2300.
An introduction to basic measurement concepts and tools encountered in psychoacoustics, physiological acoustics, acoustic phonetics, speech pathology and audiology.

SPA 3001 Survey of Communication Disorders. F, S, SS.
Credits: 3
Basic principles of Speech pathology including consideration of the types, incidence, recognition and cause of speech and language disorders.

SPA 3011 Speech Acoustics. F, S, SS.
Credits: 3; Prereq: LIN 2711.
An introduction to scientific methodologies, physics of sound and elementary instrumentation related to human speech communication.

SPA 3101 Speech Anatomy and Physiology. F, S, SS.
Credits: 3; Prereq: LIN 2711.
An introduction to elementary anatomy, physiology and neurophysiology of the speaking mechanism.

SPA 3102 Fundamentals of Hearing. F, S.
Credits: 3; Prereq: Consent of instructor.
Concepts and principles relevant to the normal hearing processes: acoustics, gross anatomy, psychophysical methods and basic subjective correlates of the auditory system.

SPA 3105 Basic Auditory Mechanisms. S.
Credits: 3; Prereq: SPA 3102 and consent of instructor.
Neuroanatomy of the auditory system, peripheral and central dynamics of the cochlea, electrophysiological response in the cochlea and in various levels of the auditory system.

SPA 4052 Lab: Speech Pathology and Audiology. F, S, SS.
Credits: 1††; Prereq: Introduction courses in articulation, voice, stuttering, language (3.0 GPA required plus permission of clinic director); repeatable up to 2 hours.
Undergraduate practicum for students in Speech Pathology and Audiology.

SPA 4118C Topics in Hearing. S.
Credits: 2; Prereq: SPA 3102 and consent of instructor.
Discussions and laboratory work on auditory stimuli, psychoacoustical methodology, and general models of auditory processing.

SPA 4121 Speech Perception. SS.
Credits: 2; Prereq: SPA 3102 and consent of instructor.
Concepts and principles relevant to the perception of speech with emphasis on the auditory system: psychophysical methods, test materials, and basic subjective correlates of speech perception.

SPA 4201 Speech Pathology I: Articulation and Voice. F, S, SS.
Credits: 3
Description, diagnosis, treatment, and observation of articulation and voice disorders.

SPA 4228 Speech Pathology II: Stuttering and Aphasia. F, S, SS.
Credits: 3
Description, diagnosis, treatment and observation of stuttering and aphasia.

SPA 4302 Audiological Evaluation and Observation. F, S, SS.
Credits: 3; Prereq: SPA 3102.
Basic techniques in pure-tone and speech audiometry, measurements of middle-ear function and test interpretation. Supervised clinical/laboratory experience in hearing testing.

SPA 4362 Auditory Training and Speechreading. F, S, SS.
Credits: 3; Prereq: SPA 4302 or consent of instructor.
Methods in auditory training and speechreading in aural rehabilitation.

SPA 4404 Language Development and Disorders. F, S, SS.
Credits: 4
Study of stages and processes of language acquisition in addition to diagnosis, treatment, and observation of language disorders in children.

GRADUATE COURSES

SPA 5106 Neurophysiology of Hearing.
Credits: 3

SPA 5119 Psychoacoustics 1.
Credits: 4

SPA 5122 Seminar in Speech Perception.
Credits: 3

SPA 5135 Electro-Acoustical Laboratory.
Credits: 2

SPA 5136C Experimental Audiology.
Credits: 4

SPA 5202 Articulation Disorders.
Credits: 3

SPA 5211 Voice Disorders.
Credits: 3

SPA 5223 Principles of Speech Pathology: Stuttering.
Credits: 3

SPA 5242 Communicative Disorders Related to Cleft Palate.
Credits: 3

SPA 5304 Principles of Audiological Evaluation.
Credits: 3

SPA 5403 Language Disorders I.
Credits: 3

SPA 5405 Language Disorders 2.
Credits: 3

SPA 5423 Speech and Language for the Deaf and Hard of Hearing.
Credits: 3

SPA 5525L Lab 1: Principles of Behavior Management in Speech Pathology.
Credits: 1

SPA 5553L Lab 2: Principles of Diagnosis and Appraisal in Speech Pathology and Audiology.
Credits: 1

SPA 5554L Lab 3: Principles of Counseling and Supervision in Speech Pathology and Audiology.
Credits: 1

SPA 5559L Lab 4: Interdisciplinary Career Activities in Speech Pathology and Audiology.
Credits: 1

SPA 6133L Hearing Aid Analysis Laboratory.
Credits: 1

SPA 6140 Experimental Phonetics: Laryngeal Function.
Credits: 3

SPA 6141 Experimental Phonetics: Speech Physiology.
Credits: 3

SPA 6145 Experimental Phonetics: Speech Acoustics.
Credits: 3

SPA 6204L Lab: Articulation Disorders.
Credits: 1

SPA 6206L Lab: Myofunctional Disorders.
Credits: 1

SPA 6208 Seminar in Cerebral Palsy and Neurogenic Articulation Disorders.
Credits: 3

SPA 6216 Seminar in Special Voice Problems.
Credits: 2

SPA 6227 Seminar in Stuttering.
Credits: 2

SPA 6245L Lab: Cleft Palate.
Credits: 1

SPA 6246L Lab: Radiographic Diagnostics in Speech Pathology.
Credits: 1

SPA 6305 Pediatric Audiology.
Credits: 2

SPA 6313 Peripheral Disorders of Hearing.
Credits: 4

SPA 6314 Assessment of Central Auditory and Vestibular Nervous System.
Credits: 3

SPA 6327 Seminar in Aural Rehabilitation and Psychology of Deafness.
Credits: 3

SPA 6345 Seminar in Audiology: Hearing Aids.
Credits: 3

SPA 6407L Lab: Grammatical Language Analysis.
Credits: 1

SPA 6410 Seminar in Neurogenic Communication Disorders.
Credits: 2

SPA 6411 Seminar in Language Pathology: Childhood Aphasia and Autism.
Credits: 2

SPA 6435 Seminar in Mental Retardation and Developmental Disabilities.
Credits: 2

SPA 6445 Seminar in Parent-Child Interaction and Communication Development.
Credits: 2

SPA 6521 Clinical Practice in Speech Pathology: Diagnosis.
Credits: 1 to 6††; Maximum of 6 credits.

SPA 6524 Clinical Practice in Speech Pathology: Therapy.
Credits: 1 to 6††; Maximum of 6 credits.

SPA 6531 Clinical Practice in Hearing Measurement.
Credits: 1 to 6††; Maximum of 6 credits.

SPA 6533 Clinical Practice in Aural Rehabilitation.
Credits: 1 to 6††; Maximum of 6 credits.

SPA 6600 Organization and Administration of Speech Pathology and Audiology Programs.
Credits: 3

SPA 6940 Supervised Teaching.
Credits: 1 to 5††

SPA 6971 Research for Master's Thesis.
Credits: 1 to 15††

SPA 7127 Seminar in Speaker Recognition.
Credits: 3

SPA 7128 Seminar in Audition.
Credits: 3; Maximum of 9.

SPA 7354 Seminar in Audiology: Hearing Conservation and Noise Control.
Credits: 3

SPA 7523 Practicum in Speech Pathology in a Medical-Dental Setting.
Credits: 1 to 6††; Maximum of 6 credits.

SPA 7536 Practicum in Audiology in a Medical Setting.
Credits: 1 to 6††; Maximum of 6 credits.

SPA 7932 Seminar in Hearing.
Credits: 3

SPA 7938 Seminar: Interdisciplinary Topics in Hearing.
Credits: 3

STATISTICS
College of Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Scheaffer, R.L., Chairman; Agresti, A.G.; Brownie, C.; Carter, R.L.; Cornell, J.G.; DeBovis, M.R.; Kepner, J.L.; Khuri, A.I.; Littell, R.C.; Marks, R.G.; Martin, F.G.; Midha, C.K.; Randles, R.H.; Rao, P.V.; Robinson, D.H.; Rosalsky, A.J.; Saw, J.G.; Shuster, J.J.; Wackerly, D.D.; Yang, M.C.K.

General Information

An undergraduate major in statistics is offered in both the College of Agriculture and the College of Liberal Arts and Sciences. Students planning to major in statistics should have a strong interest in mathematics and some interest in computing. All students who wish to major in statistics should consult a departmental advisor early in their program.

Core Requirements

All majors in statistics are required to complete:
STA 4202-03; STA 4321-22
MAC 3311-13 (or MAC 3472-74)
This is a total of 24 semester hours.

Elective Requirements

At least nine semester hours, in addition to the core requirements, must be completed from a variety of elective possibilities. The statistics electives include STA 4173, 4222 and 4821. Other electives may be selected from mathematics, computer and information sciences, industrial and systems engineering, business, and other related disciplines. The individual program should be worked out with an advisor from the Department of Statistics.

††Grading is on S-U basis only.

Descriptions

STATISTICS

Honors

To earn Baccalaureate Honors, a student majoring in statistics must:
(1) obtain a 3.5 GPA in all upper division work.
(2) complete STA 4821 and at least two of MAA 4226, MAA 4227 and MAS 4103, 4104.
(3) complete a senior project.

STA 3013 Statistics for The Social Sciences. F, S, SS.
Credits: 3
Introduction to descriptive and inferential statistical techniques with applications in the Social Sciences.

STA 3023 Introduction to Statistics 1. F, S, SS.
Credits: 3
Development of the fundamental statistical concepts and their relationship to the social and physical sciences.

STA 3024 Introduction to Statistics 2. S, SS.
Credits: 3; Prereq: STA 3023 or equivalent.
An introduction to the analysis of variance. Nonparametric statistical methods and applications. Analysis of count data: chi-square and contingency tables. Simple and multiple linear regression methods with applications.

STA 3032 Engineering Statistics. F, S, SS.
Credits: 2; Prereq: MAC 3311.
A survey of the basic concepts in probability and statistics with engineering applications. Topics include probability, discrete and continuous random variables, estimation, hypothesis testing, and linear and multiple regression.

STA 4033 Mathematical Statistics with Computer Applications. F, S.
Credits: 2; Prereq: STA 3023 or STA 3032, MAC 3312, COC 3110 or equivalent.
Computer simulations on simple statistical techniques such as histograms, z-test, and t-test; analyzing large data sets by regression, contingency tables, nonparametric and simple multivariate procedures.

STA 4173 Biometry. S.
Credits: 3; Prereq: STA 4322 or equivalent.
Specialized statistical methods in the medical sciences. Contents include: large sample theory, analysis of survival, dose response curves, contingency tables, clustering in time and space, semi-Markov models in clinical trials, and binary regression.

STA 4202 Applied Statistics I. F.
Credits: 3; Prereq: STA 3023 or equivalent.
Principles of designing an experiment; analysis of variance for completely randomized, randomized complete block, latin square, and factorial designs; simple linear regression, multiple linear regression, and the general linear model; inference about linear combinations of parameters and multiparameter inferences in complete and reduced models; multiple comparisons.

STA 4203 Applied Statistics II. S.
Credits: 3; Prereq: STA 4202 or equivalent.
Variance stabilizing transformations, nested designs, split-plot designs. Introduction to multivariate statistical techniques and procedures, including principal components analyses, cluster analysis, factor analysis, discriminant analysis, and simple, partial, multiple, and canonical correlations. Introduction to nonparametric statistics, including analysis of variance by ranks, multiple comparison, estimation, rank correlation, and contingency tables.

STA 4222 Sample Survey Design. S, SS.
Credits: 3; Prereq: STA 3023 or equivalent.
An introduction to the design of sample survey methodology with emphasis on practical application. Contents are: Questionnaire construction; simple, stratified, cluster, ratio, regression and systematic sampling techniques. Special topics in wildlife sampling and bias adjustment will also be discussed. An actual survey will be conducted

††Grading is on S-U basis only.

STA 4321 Mathematical Statistics 1. F, S.
Credits: 3; Prereq: MAC 3312 or equivalent.
An introduction to the theory of probability, random variables and their probability distributions. Multivariate probability distributions, independence, covariance. Distributions of functions of random variables. Sampling distributions of statistics, central limit theorem.

STA 4322 Mathematical Statistics 2. S, SS.
Credits: 3; Prereq: STA 4321 or equivalent.
Estimation, properties of point estimators, hypothesis testing, common large sample tests, uniformly most powerful and likelihood ratio tests, linear models and least squares, correlation. Introduction to analysis of variance and nonparametric methods.

STA 4821 Stochastic Processes.
Credits: 3; Prereq: STA 4321 or equivalent.
Theoretical development of elementary stochastic processes, including Markov chains, Poisson process, birth and death processes and renewal processes. Applications to business and the behavioral, biological, medical, physical and social sciences.

STA 4905 Individual Work. F, S, SS.
Credits: 1 to 5; Prereq: permission of department.
Special topics designed to meet the needs and interest of individual students. May be repeated with change of content up to a maximum of 15 credits.

STA 4930 Special Topics in Statistics.
Credits: 3; Permission of the Department chairman.
Special topics designed to meet the needs and interests of individual students. May be repeated with change of content up to a maximum of 15 credits.

GRADUATE COURSES

STA 5106 Computer Programs in Statistical Analysis 1. S.
Credits: 1

STA 5107 Computer Programs in Statistical Analysis 2. S, SS.
Credits: 2

STA 6126 Statistical Methods in Social Research 1.
Credits: 3

STA 6127 Statistical Methods in Social Research 2.
Credits: 3

STA 6166 Statistical Methods in Research 1.
Credits: 4

STA 6167 Statistical Methods in Research 2.
Credits: 4

STA 6176 Introduction to Biostatistics.
Credits: 3

STA 6177 Advanced Topics in Biostatistics.
Credits: 3

STA 6200 Fundamentals of Research Design.
Credits: 2

STA 6201 Analysis of Research Data.
Credits: 3

STA 6207 Design and Analysis of Experiments 1.
Credits: 3

STA 6208 Design and Analysis of Experiments 2.
Credits: 3

STA 6226 Sampling Theory and Applications.
Credits: 3

STA 6246 Theory of Least Squares.
Credits: 3

STA 6247 Advanced Topics in Design and Analysis.
Credits: 3

STA 6267 Sequential Methods.
Credits: 3

STA 6326 Introduction to Theoretical Statistics 1.
Credits: 3

STA 6327 Introduction to Theoretical Statistics 2.
Credits: 3

STA 6466 Probability Theory 1.
Credits: 4

STA 6467 Probability Theory 2.
Credits: 4

STA 6505 Analysis of Categorical Data.
Credits: 3

STA 6526 Nonparametric Statistics.
Credits: 3

STA 6706 Applied Multivariate Methods for Behavioral Research.
Credits: 3

STA 6707 The Analysis of Multivariate Data.
Credits: 3

STA 6746 Multivariate Analysis.
Credits: 4

STA 6826 Stochastic Processes 1.
Credits: 3

STA 6827 Stochastic Processes 2.
Credits: 4

STA 6857 Applied Time Series Analysis.
Credits: 3

STA 6876 Theory of Time Series.
Credits: 3

STA 6900 Problems in Statistics.
Credits: 1 to 5

STA 6905 Individual Work.
Credits: 1 to 5

STA 6910 Supervised Research.
Credits: 1 to 5††

STA 6934 Special Topics in Statistics.
Credits: 1 to 4

STA 6937 Seminar: Current Topics in Statistics.
Credits: 1 to 4††

STA 6938 Seminar.
Credits: 1††

STA 6940 Supervised Teaching.
Credits: 1 to 5††

STA 6971 Master's Research.
Credits: 1 to 15††

STA 7346 Statistical Inference 1.
Credits: 4

STA 7347 Statistical Inference 2.
Credits: 4

STA 7980 Doctoral Research.
Credits: 1 to 15††

THEATRE

College of Fine Arts

INSTRUCTIONAL STAFF 1981-82

Hooks, E. James, Chairman; Brandman, R; Conger, J.H., III; Green, R.L.; Maulden, D.C.; Shelton, D.L.; Wehlburg, A.F.C.; West, G.L.

All students who are considering Theatre as a major should consult the departmental academic adviser soon after enrolling in the University. In the Department of Theatre an upper division total of 69 credits is required for the B.F.A. degree. This total must include the following core curriculum: TPA 3200, TPP 3650, TPP 3310, 3311, THE 4945, THE 4110, THE 4111, ENL 4333, TPA 4230, TPA 4231.

Additional requirements include a 30-hour specialization in performance and technical theatre and design, and a 27-hour specialization in costume, and a 33-hour specialization in dance.

Also available is a theatre major offered through the College of Liberal Arts and Sciences, leading to the degree Bachelor of Arts.

A total of 30 credits in theatre courses is required for the B.A. degree. The total must include the following core curriculum: ORI 2001, TPP 3110, TPA 3200, TPP 3650, TPP 3310, TPP 3311.

A drama emphasis leading to the B.A. in Education is available through the Language Arts major offered by the College of Education.

Dance

DAN 3500 Dance Production. F, S.
Credits: 1 to 3; Prereq: consent of instructor.
Principles and practice of producing dance concerts. May be repeated with change of content up to a maximum of 9 credits.

DAN 4103 Seminar in Dance History and Philosophy. F.
Credits: 3
Survey of the historical development of the art of dance with reference to social contexts, periods and cultures involved; seminars, readings, and observations of various cultural events and audio-visual materials.

Dance Activities

DAA 2101 Modern Dance II. F, S.
Credits: 3; Prereq: DAA 1100 and/or consent of instructor.
Modern Dance includes experiences in advanced beginning level technique, readings, observations, and movement exploration. May be repeated with change of content up to a maximum of 6 credits.

DAA 2200 Ballet I. F, S, SS.
Credits: 3; consent of instructor.
Elementary Ballet technique with discussion of terminology and style.

DAA 3102 Modern Dance III. F, S.
Credits: 3; Prereq: DAA 2101; consent of instructor.
Modern dance including experiences in intermediate level technique, readings, observations, and movement exploration exercises emphasizing literal expressive modes. May be repeated with change of content up to a maximum of nine credits.

DAA 3501 Musical Comedy and Jazz I. F.
Credits: 3; Prereq: DAA 2200
Designed to broaden experience of beginning student in musical comedy/jazz idiom. Emphasis on technique, styles, movement skills, and vocabulary.

DAA 3502 Musical Comedy and Jazz II. S.
Credits: 3; Prereq: DAA 3501
Designed to provide intermediate levels of training in technique, styles, and movement skills. Emphasis on strength, flexibility, balance, and extension.

DAA 3700 Dance Composition. F, S.
Credits: 3; Prereq: DAE 2320 or consent of instructor.
Modern dance composition with respect to form, design, dynamics, and rhythm.

DAA 4103 Modern Dance IV. F, S.
Credits: 3; Prereq: DAA 3102; consent of instructor.
Modern dance including experiences in advanced level technique, readings, observations, informal performance, and movement exploration exercises emphasizing nonrepresentational expressive modes. May be repeated with change of content up to a maximum of nine credits.

Dance Education

DAE 2320 Modern Dance Teaching Methods. F, S.
Credits: 3
Skills and Teaching techniques.

Oral Interpretation

ORI 2001 Oral Performance of Literature I. F, S, SS.
Credits: 3
An introduction to the presentation mode of interpreting literature and drama, with an emphasis on the improvement and specialized application of vocal skills.

ORI 2002 Oral Performance of Literature II. F, S, SS.
Credits: 3; Prereq: ORI 2001 and/or permission of instructor.
An advanced study of the presentational mode of interpreting literature and drama with an emphasis on the aesthetic properties of form and style.

GRADUATE COURSES

ORI 6430 Theories of Interpretive Reading.
Credits: 3

Theatre

THE 2000 Theatre Appreciation 1. F, S, SS.
Credits: 3
To develop an appreciation of theatre through a study of theatre history and literature. An introduction to forms, styles, and philosophies of theatre from a humanistic approach.

THE 4110 History of the Theatre I. F.
Credits: 3; Prereq: THE 2000, TPA 3200, TPP 3310.
Development of the theatre from its beginning through the Restoration.

THE 4111 History of the Theatre II.
Credits: 3; Prereq: THE 2000, TPA 3200, TPP 3310.
Development of the theatre from the Restoration to the present.

THE 4905 Individual Study. F, S, SS.
Credits: 3; Prereq: Permission of instructor and Department Chairman.
A project, reading, or research course. May be repeated with change of content up to a maximum of 9 credits.

THE 4945 Theatre Production: A Practicum in Repertory Theatre. SS.
Credits: 3 to 9; Prereq: TPP 3112, TPA 3010, 3270, 4232, and consent of staff.
A practical production experience in repertory theatre with direct skills application in all areas of theatre production, and special emphasis on the problems of organizing a multi-production repertory program. May be repeated with change of content up to a maximum of 9 credits.

THE 4949 Individual Co-operative Professional Work Experience.
Credits: 1; Prereq: 4FA or above classification and consent of Chairman and employer.
One term commercial employment including extra work according to pre-approved outline. Practical theatre work under commercial supervision.

GRADUATE COURSES

THE 5116 History of the Theatre I. F.
Credits: 3

THE 5117 History of the Theatre II.
Credits: 3

THE 5949 Individual Co-operative Professional Work Experience.
Credits: 3 to 9

THE 6203 American Plays, Players, and Playwrights I.
Credits: 3

THE 6204 American Plays, Players, and Playwrights II.
Credits: 3

THE 6234 Studies in Contemporary European Theatrical Practices.
Credits: 3

THE 6285 Readings in Theatrical History I.
Credits: 3

THE 6286 Readings in Theatrical History II.
Credits: 3

THE 6521 Seminar in Dramatic Theory and Criticism.
Credits: 3

THE 6905 Individual Study.
Credits: 1 to 3; Prereq: Permission of instructor and Department Chairman. Repeatable with changes up to 9 hours.

THE 6910 Supervised Research.
Credits: 1 to 5††; Permission of instructor and Department Chairman.

THE 6913 Theatre Research.
Credits: 3

THE 6940 Supervised Teaching.
Credits: 1 to 5††; Prereq: Permission of instructor and Department Chairman.

THE 6971 Master's Research.
Credits: 1 to 15††

THE 6973 Creative Project in Lieu of Thesis.
Credits: 1 to 10††; Prereq: Min. equivalent of year's work completed at graduate level toward MFA degree.

Theatre Production and Administration

TPA 3010 Stagecraft and Design II.
Credits: 3; Prereq: TPA 3200 or permission of instructor.
Specialized techniques of stagecraft and design problems.

TPA 3200 Stagecraft and Design I. F, S.
Credits: 3; Prereq: TPP 2000 or permission of instructor.
The basic techniques of scene construction, lighting and painting with an introduction to design principles.

TPA 3220 Technical Theatre Principles. F.
Credits: 3; Prereq: TPA 3010 or permission of instructor.
A study of the specialized techniques and design factors essential to stage scenery, lighting, and costumes.

TPA 3250 Stage Makeup. F, S.
Credits: 3; Prereq: THE 2000, TPP 3110.
Study and application of the principles, materials, and procedures for effective execution of theatrical makeup. Majors only, except by permission of instructor.

TPA 3270 Advanced Equipment Utilization. F.
Credits: 3; Prereq: TPA 3200, 3010, 3220 or permission of instructor.
Designed for the advanced student to become conversant with the uses and functions of sophisticated theatre construction tools as used in furniture building, steel construction and properties making. Additionally, principles and application of sound as it is used in the theatre will be covered.

††Grading is on S-U basis only.

Descriptions

THEATRE

TPA 3290L Theatre Practice. F, S.
Credits: 1 to 3; May be repeated up to 12 hours with change of content.
Practical problems in theatre performance and production. An introduction to and practice of the standardized methods and procedures of theatre production.

TPA 4024 Advanced Lighting Design. F.
Credits: 3; Prereq: TPA 3010 or permission of instructor.
Lighting equipment, control, design and aesthetics. Application of the principles of, and responses to, color and light in the theatre.

TPA 4047 Production Costume Design. F.
Credits: 3; Prereq: TPA 4231, 4232 or permission of instructor.
The application of fundamentals of costume design to costume requirements fostered by specific production concepts.

TPA 4060 Scene Design 1. F.
Credits: 3; Prereq: TPA 3200, 3010, 3220, 3310 or permission of instructor.
Scene Design as an Art: A consideration of the spatial and aesthetic factors operative in the scenic elements with special emphasis on pragmatic consideration of the design process.

TPA 4063 Scene Design 2. F.
Credits: 3; Prereq: TPA 4060 and/or permission of chairman; freehand drawing.
A continuation of Scene Design as an art: A consideration of the spatial and aesthetic factors operative in the scenic elements with special emphasis on pragmatic consideration of the design process.

TPA 4064 Advanced Scenic Art.
Credits: 3; Prereq: Free-hand drawing abilities and a firm grasp of scene painting techniques. ART 1300.
A utilization of advanced and experimental scenic art techniques and an exploration of various media for three-dimensional work.

TPA 4081 Scene Painting. F, S.
Credits: 3; Prereq: Basic knowledge of drawing technique and familiarity with materials; permission of instructor required. Basic knowledge of Scene Design process and theory covered by Scene Design 1.
Scene painting is an introduction to color vocabulary, color theory, and color composition. Student will learn painting and rendering technique for the stage.

TPA 4088 Multiple Set Design.
Credits: 3; Prereq: Freehand drawing, scene design, and drafting skills.
This course focuses on design of plays with multiple settings. Aesthetics and pragmatics of design will be discussed and experiments conducted.

TPA 4100 Architecture and Decoration for the Stage.
Credits: 3; Prereq: Demonstrated proficiency in basic freehand drawing and permission of instructor.
A survey of architectural styles and decorative motiffs throughout history. Project will require research, development, and ability to abstract from various theatrical genres.

TPA 4230 Theatrical Costume I. F.
Credits: 3; Prereq: TPA 3010 or permission of instructor.
The history of stage costume from antiquity to the post-Elizabethan period, and a study of the basic design elements involved. Laboratory experience in costume construction.

TPA 4231 Theatrical Costume II. S.
Credits: 3; Prereq: TPA 4230 or permission of instructor.
The history of stage costume and a study of basic design elements, fabrics and patterns. Laboratory experience in costume construction.

††Grading is on S-U basis only.

GRADUATE COURSES

TPA 5048 Production Costume Design. F.
Credits: 3

TPA 5061 Scene Design II.
Credits: 3; Prereq: TPA 5084 and/or permission of instructor.

TPA 5064 Advanced Scenic Art.
Credits: 3; Prereq: Consent of the instructor.

TPA 5081 Scene Painting.
Credits: 3; Prereq: permission of the instructor.

TPA 5084 Scene Design. F.
Credits: 3

TPA 5088 Multiple Set Design.
Credits: 3; Prereq: Consent of instructor.

TPA 5100 Architecture and Decoration for the Stage.
Credits: 3; Prereq: Consent of instructor.

TPA 5236 Theatrical Costume I.
Credits: 3; Prereq: Basic drawing skills; dramatic literature analysis.

TPA 5237 Theatre Costume II.
Credits: 3; Prereq: Synthesis of elements of theatrical design from character to total production.

TPA 5937 Seminar in Theatre Design.
Credits: 3; Prereq: Consent of the instructor.

TPA 6023 Seminar and Practicum in Modern Theatre Design and Practice.
Credits: 3; Maximum of 9 credits.

TPA 6087 Costume Management.
Credits: 3; Prereq: THE 4230, THE 4231 or equivalent, and permission of instructor.

TPA 6219 Backgrounds in Modern Theatre Practice.
Credits: 3; Consent of instructor.

TPA 6275 Advanced Equipment Utilization.
Credits: 3; Prereq: TPA 3200, TPA 3060, TPA 3220 or permission of instructor.

Theatre Performance & Performance Training

TPP 2700 Voice and Diction Workshop. F, S, SS.
Credits: 3
The performance oriented workshop designed for the development and application of voice and diction skills.

TPP 3110 Acting I. F, S.
Credits: 3; Prereq: ORI 2001 or permission of instructor.
A study of the basic techniques and theories of acting.

TPP 3111 Acting II. S.
Credits: 3; Prereq: TPP 3110 or permission of instructor.
A study of acting styles and their relation to theatre aesthetics.

TPP 3112 Acting III. S.
Credits: 3; Prereq: TPP 3110 and TPP 3111.
Study of the Acting programs inherent in the form and character structure of the period play, with exercises emphasizing delivery and period stage conventions.

TPP 3310 Directing I. F.
Credits: 3; Prereq: TPP 3110 and TPA 3200, TPP 3650 or permission of instructor.
Basic principles of play direction, including problems of selecting, casting, and rehearsing plays.

TPP 3311 Directing II. S.
Credits: 3; Prereq: TPP 3110, TPA 3200, TPP 3310 or permission of instructor.
Analysis of selected types of dramatic literature for appropriate directing style, and practical experience in directing projects.

TPP 3510 Musical Theatre and Movement 1.
Credits: 3; Prereq: Acting 2 and/or permission of Chairman.
A study of basic technique of musical theatre and stage movement.

TPP 3511 Musical Theatre and Movement 2.
Credits: 3; Prereq: Musical Theatre and Movement 1 and/or consent of Chairman.
A continuation of study of techniques of musical theatre and stage movement emphasizing styles and further developing techniques.

TPP 3512 Musical Theatre 3.
Credits: 3; Prereq: Musical Theatre and Movement 2 and/or permission of Chairman.
The advanced development of acting, singing, and dancing skills culminating in the presentation of a musical comedy revue.

TPP 3650 Production Analysis of the Playscript. F.
Credits: 3; Prereq: permission of instructor.
An analysis of classic and commercial playscripts for the purpose of isolating specialized production problems and identifying the production potential of varied artistic form constructs. For majors only.

GRADUATE COURSES

TPP 5192 Graduate Acting I. F.
Credits: 3; Prereq: TPP 3112 or permission of instructor.

TPP 5294L Summer Repertory Theatre. SS.
Credits: 3 to 9; Prereq: Consent of Staff.

TPP 5550 Musical Theatre I.
Credits: 3; Prereq: Permission of instructor.

TPP 5551 Musical Theatre II.
Credits: 3; Prereq: TPP 5550 or consent of instructor.

TPP 5552 Musical Theatre III.
Credits: 3; Prereq: TPP 5551 and/or permission of instructor.

TPP 6193 Graduate Acting II.
Credits: 3; Prereq: THE 5118 or equivalent, and consent of instructor.

TPP 6234 Acting Ensemble.
Credits: 3 to 9; Prereq: TPP 6140 or equivalent and permission of instructor.

TPP 6921 Directing Workshop.
Credits: 3 to 9; Prereq: TPP 3650, 3310, 3311 or equivalent, TPP 6934 and permission of instructor.

TPP 6934 Advanced Problems of Stage Direction.
Credits: 3

URBAN AND REGIONAL PLANNING
College of Architecture

INSTRUCTIONAL STAFF 1981-82

Starnes, E.M., Chairman; Alexander, J.F.; Bartley, E.R.; Felss, C.; Milliman, J.W.; Schneider, R.H.; Welsmantel, W.; Wetterqvist, O.F.

Economic Problems & Policy

ECP 5614 Urban Economics.
Credits: 4; Prereq: ECO 2013-2123 or by permission of instructor.

Urban and Regional Planning

URP 3001 Cities of the World.
Credits: 3
Comparative case studies of contemporary cities in the U.S. and a series of foreign countries both industrialized and developing will be covered. Special consideration will be given to energy consumption.

URP 4000 Preview of Urban and Regional Planning.
Credits: 2
An overview of the comprehensive planning process designed for undergraduates who may be considering a career in urban and regional planning or who may be pursuing studies where some knowledge of the planning process is desirable.

URP 6042 Planning and Urban Systems Theory.
Credits: 3; Prereq: URP 6100.

URP 6061 Professional Administration.
Credits: 1 to 3

URP 6100 Planning Theory and History.
Credits: 3

URP 6101 Planning Research and Design I.
Credits: 3

URP 6102 Planning Research and Design II.
Credits: 3

URP 6103 Urban Design and Special District Planning.
Credits: 3; Prereq: URP 6101.

URP 6131 Community Development Powers I.
Credits: 3

URP 6132 Community Development Powers II.
Credits: 3; Prereq: URP 6131.

URP 6141 Comprehensive Planning and Evaluation.
Credits: 3

URP 6231 Planning Methods I.
Credits: 3

URP 6261 Planning Methods II.
Credits: 3

URP 6271 Planning Information Systems.
Credits: 3; Prereq: URP 6261.

URP 6301 Urban Project.
Credits: 1 to 12; max: 12.

URP 6311 Regional Planning Project.
Credits: 1 to 12; max: 12.

URP 6312 Land Development Planning and Evaluation.
Credits: 3

URP 6321 State Planning Project.
Credits: 1 to 12; max: 12.

URP 6331 Housing and Urban Systems Project.
Credits: 1 to 12; max: 12.

URP 6341 Urban Planning Project.
Credits: 1 to 12; max: 12.

URP 6351 Special District Project.
Credits: 1 to 12; max: 12.

URP 6421 Environmental Impact Statements.
Credits: 3

URP 6700 The Capital Web.
Credits: 3

URP 6801 City in History.
Credits: 3

URP 6811 Community Values and Goals.
Credits: 3

URP 6821 Urban and Regional Systems.
Credits: 3

URP 6884 Community Conservation and Revitalization.
Credits: 3

URP 6905 Exploration and Directed Study.
Credits: 1 to 4; max: 10.

URP 6910 Supervised Research.
Credits: 1 to 5††

URP 6931 Topical Seminar.
Credits: 1 to 4; max: 6.

URP 6940 Supervised Teaching.
Credits: 1 to 5††

URP 6971 Research for Master's Thesis.
Credits: 1 to 15††

URP 6979 Terminal Project.
Credits: 1 to 6.

VEGETABLE CROPS
College of Agriculture

INSTRUCTIONAL STAFF 1981-82

Maynard, D.N., Chairman; Bassett, M.J.; Cantliffe, D.J.; Gull, D.D.; Hannah, L.C.; Huber, D.J.; Humphreys, T.E.; Kostewicz, S.R.; Lazin, M.B.; Locascio, S.J.

VEC 3100 Introduction to World's Vegetables. F.
Credits: 2
Types of vegetables grown throughout the world discussed with emphasis on their importance, adaptation, use and nutritional value.

VEC 3200 Vegetable Gardening. F, S.
Credits: 1
A laboratory course primarily for non-majors who desire to learn the basic principles of vegetable gardening. A garden will be required of each student.

VEC 3221 Commercial Vegetable Production I. F.
Credits: 4
Introduction to commercial vegetable production and the culture of cool-season vegetable crops. Laboratory covers production of these crops.

VEC 3222 Commercial Vegetable Production II. S.
Credits: 3; Prereq: VEC 3224.
The application of scientific principles to the production of warm-season vegetable crops. Laboratory covers the production of these crops.

VEC 4410 Vegetable Crops Nutrition. F.
Credits: 2; Prereq: BOT 3503.
Chemical and physiological principles of vegetable nutrition including plant requirements, nutrient sources and methods of application.

VEC 4432 Growth and Development of Vegetable Crops. S.
Credits: 3; Prereq: BOT 3503.
Physiological and environmental factors affecting growth and development of vegetable crops.

VEC 4452 Principles of Postharvest Horticulture. F.
Credits: 3
Biological principles involved in harvesting, grading, packaging, transportation, and marketing vegetable crops, and their effects on quality maintenance.

VEC 4905 Special Topics and Independent Study in Vegetable Crops. F, S, SS.
Credits: 1 to 3; Maximum of 8 credits; with permission of instructor.
Selected topics in one or more areas of vegetable crops as: nutrition, varietal development, herbicides and other cultural treatments, physiology and postharvest handling.

VEC 4941 Full Time Practical Work Experience in Vegetable Crops. F, S, SS.
Credits: 1 to 3; Prereq: Prior arrangement with adviser, approval of Department Chairman and Dean.
Practical work must be a new experience and related to the field of study. (For additional courses related to Vegetable Crops — See Plant Science).

VETERINARY MEDICINE — IFAS
College of Agriculture

INSTRUCTIONAL STAFF 1981-82

Gelatt, K.N., Dean; Asbury, A.C.; Bauer, J.E.; Becker, H.N.; Bell, J.U.; Besch, E.L.; Bradley, Sr., R.E.; Braun, R.K.; Burridge, M.J.; Buss, D.D.; Calderwood, M.B.; Cardeilhac, P.T.; Chen C.D.; Chrisman, C.L.; Cripe, W.S.; Davenport, P.W.; Drost, M.; Edds, G.T.; Forrester, D.J.; Gaskin, J.M.; Gibbs, E.P.J.; Greiner, E.C.; Gronwall, R.R.; Halliwell, R.E.; Harvey, J.W.; Himes, J.A.; Kahrs, R.F.; Kosch, P.C.; Larsen, R.E.; LeBlanc, M.M.; Mason, R.M.; Merritt, A.M. II; Neal, F.C.; Neilson, J.T.; Nicoletti, P.L.; Palmore W.P.; Russell, S.W.; Shields, R.P.; Simpson, C.F.; Sundlof, S.F.; Watson, A.; White, F.H.; Wolf, E.D.; Woodard, J.C.; Young, M.D.

VES 3202C Anatomy and Physiology of Domestic Animals. S, SS.
Credits: 4; Prereq: ZOO 2014 (or BSC 2010, 2011 and 2012) and ASG 3003.
Structure and function of the skeletal, muscular, endocrine, reproductive, circulatory, respiratory, digestive, urinary and nervous systems. Laboratory to include appropriate demonstration on these systems, particularly animal reproduction.

VES 4103 Animal Diseases and their Prevention. F.
Credits: 2; Prereq: VES 3202C, or consent of instructor.
The principal diseases of livestock and practical methods for their prevention and control.

VES 4162 Poultry Diseases. F.
Credits: 2; Prereq: VES 3202C.
Causes, symptoms, methods of prevention and treatment of diseases of poultry.

VES 4611 Environmental Toxicology and Public Health. F.
Credits: 3; Prereq: CHM 3211.
Drugs and toxicants, their metabolism as influenced by food or residues; drug induced deficiency diseases; adverse reactions; mycotoxins; common poisons, their diagnosis, prevention and treatment.

GRADUATE COURSES

VES 5302 Veterinary Parasitology 1.
Credits: 3; Prereq: ZOO 2010 (or BSC 2010, 2011 and 2012), ZOO 3303, MCB 3103, ENY 4660 or consent of instructor.

VES 5303 Veterinary Parasitology 2.
Credits: 3; Prereq: VES 5302 or consent of instructor.

VES 6242C Veterinary Physiology.
Credits: 4

VES 6362 Parasitic Diseases in the Tropics and Subtropics.
Credits: 4

VES 6602 Veterinary Toxicology 1.
Credits: 3

VES 6603 Veterinary Toxicology 2.
Credits: 3

VES 6765 Veterinary Research Techniques.
Credits: 3

VES 6905 Problems in Veterinary Science.
Credits: 1 to 4

VES 6910 Supervised Research.
Credits: 1 to 5††

VES 6931 Seminar in Veterinary Science.
Credits: 1

VES 6940 Supervised Teaching.
Credits: 1 to 5††

VES 6971 Master's Research.
Credits: 1 to 15††

††Grading is on S-U basis only.

ZOOLOGY

WOMEN'S STUDIES
College of Liberal Arts and Sciences

WST 3010 Interdisciplinary Perspectives on Women. F.
Credits: 3
A critical thematic approach to the study of women in Western culture, with a concentration in six to eight disciplines. The course serves as a required course for the Women's Studies Certificate. It also fulfills the General Education requirement in the Social Sciences and it may be taken as an elective.

ZOOLOGY
College of Liberal Arts and Sciences

INSTRUCTIONAL STAFF 1981-82

Emmel, T.C., Chairman; Ache, B.W.; Anderson, J.F.; Auffenberg, W.; Berner, L.; Bloom, S.A.; Brockmann, H.J.; Brodkorb, P.; Brower, L.; Carr, A.F., Jr.; Carr, W.E.S.; Crump, M.L.; Deevey, E.S., Jr.; Evans, D.H.; Feinsinger, P.; Forrester, D.J.; Gilbert, C.R.; Hardy, J.W.; Humphrey, S.R.; Johnson, F.C.; Johnston, D.W.; Kaufmann, J.H.; Kiltie, R.A.; King, F.W.; Lanciani, C.A.; Lawrence, P.O.; Lloyd, J.E.; MacFadden, B.J.; Maturo, F.J.S., Jr.; McNab, B.K.; Nordlie, F.G.; Reiskind, J.; Schwassmann, H.O.; Thompson, F.G.; Walker, T.J.; Wallbrunn, H.M.; Webb, S.D.; Westfall, M.J., Jr.; Wolff, R.G.; Woods, C.A.

UNDERGRADUATE STUDENTS who intend to major in this department should plan a program in which introductory chemistry is taken in the Freshman year.

The minimum number of credits required for a Zoology major is 28, including the following: Integrated Principles of Biology — BSC 2010C, 2011C (this sequence is a prerequisite for all courses in the department unless otherwise indicated), PCB 3063 or PCB 3653C and at least one course from each of the following four sets: (a) Invertebrate Zoology — ZOO 3203C or Vertebrate Zoology — ZOO 3303C; (b) Comparative Chordate Embryology — ZOO 3605C or Functional Vertebrate Anatomy — ZOO 3703C; (c) General Ecology — PCB 4044C or Evolution — PCB 4675; (d) Animal Physiology — PCB 4745C or Comparative Histology — ZOO 4755C. Also required are one year of college physics (PHY 2053-2054L), one year of college analytic geometry and calculus (MAC 3311-3312), and chemistry through organic (CHM 3210-3211L) or physical chemistry (CHM 3400-3401), or a combination of one course in organic chemistry (CHM 3200-3200L) and biochemistry (BCH 4313-4203). Students are advised to begin these sequences as soon as possible.

Transfer students must take a minimum of three Zoology courses at the University of Florida as part of the requirements for a major in Zoology.

DEPARTMENTAL HONORS

To qualify for graduation with honors in Zoology a student must meet the college requirement of a 3.5 upper division grade point average, complete two semesters of ZOO 4905, Individual Studies in Zoology (at least 3 credits each semester), with grades of B or higher, and be recommended by the Department. Students must carry out research under the direction of a Zoology faculty member and prepare a paper based on the research which is to be submitted to, and approved by, the student's research advisor. The paper must contain a presentation and discussion of research results.

All students desiring to participate in the honors program should consult with the Chairman of the Departmental Honors Program. It is expected that the research program will be carried out in the senior year; exceptions require the approval of the Honors Chairman.

††Grading is on S-U basis only.

BIOLOGY EDUCATION PROGRAM

Students wishing to receive a degree in Zoology through the College of Liberal Arts and Sciences while simultaneously obtaining accreditation for teaching secondary school biology should complete the following program. Students electing this program must have their course selections approved by a departmental advisor.

No course in which the grade earned is below "C" meets a requirement in this program.

Course	Credits
Mathematics:	
MAC 3311	4
Biology:	
BSC 2010C, 2011C	8
BOT 3503, 3503L, or PCB 4745	4 or 5
ZOO 3203 and ZOO 3303	8
PCB 3043 or PCB 4044	4
PCB 3063 or PCB 3653C	4
APB 2170, or ZOO 3703	4
BOT 2710 and BOT 3303	6
Chemistry:	
CHM 2040, 2041, 2042L, 2043C or CHM 2042-2042L, 2043C	8 or 11
BCH 3023 or CHM 3200-3200L	4
Physics:	
PHY 2053-2053L, 2054-2054L or PHY 2048-2048L, 2049-2049L	8 or 10
Total	63-69

Students must also make applications for admission to the several phases of the Teacher Education Program as outlined in the College of Education section of this catalog and take the following courses: EDF 3135; EDF 3514; or 3604; or 4542; ESE 3932; SCE 4330; ESE 4011; ESE 4210; and ESE 4943.

Applied Biology

APB 2162 Genetics and Society. F.
Credits: 3
Inheritance and human attributes, chromosomal abnormalities, mutation, and the role genetics may play in human well-being; prospects and possible hazards of genetic engineering; the historical role of genetic concepts in political ideologies. Not a substitute for PCB 3063 or PCB 3653.

Entomology

ENY 3004 General Entomology. S.
Credits: 3
A general course in insect biology that considers phylogeny, anatomy, physiology, ecology and behavior of insects in the context of organic evolution. Emphasis is on processes and principles.

Geology

GLY 4610 Invertebrate Paleontology. S.
Credits: 3; Prereq: GLY 2100 or APB 2150 or BSC 2010.
Characteristics and identification of important groups of invertebrate fossils and their use in the determination of the geological age of sedimentary rocks.

Process Biology

NOTE: BSC 2010, 2011 or ZOO 2013, 2014 are prerequisites for all the following courses except PCB 3673.

PCB 3063 Genetics. F, S.
Credits: 4
The course stresses fundamental properties of inheritance in eukaryotic organisms emphasizing examples in man. Basic concepts are developed for the nature, organization, transmission, expression, recombination, and function of genetic materials, and principles are derived for genetically characterizing populations

PCB 3653C Genetics with Laboratory.
Credits: 4
The practical application of genetical concepts in explaining the basis and inheritance of organic variation. This course provides an integrated lecture and laboratory approach to genetics, and emphasizes rigor of experimental design and analysis of laboratory data.

PCB 3673 Evolution Today. F, S.
Credits: 2
Evolutionary theories and their historical development. Available for students in the social sciences and humanities.

PCB 4044C General Ecology. S.
Credits: 4; Prerequisite: A course in either invertebrate or vertebrate zoology is strongly recommended.
Ecological processes and organization in terrestrial and aquatic habitats. Laboratory and field exercises emphasize techniques of ecological analysis.

PCB 4285 Biology of Aging. S.
Credits: 3; Prerequisite: Senior standing or higher.
Investigation of the demographics, physiology, cellular, evolutionary and genetic correlates of the aging phenomena and processes.

PCB 4675 Evolution. F.
Credits: 4; Prerequisite: PCB 3063 or PCB 3653.
Processes and mechanisms of evolution, including population genetics, speciation, patterns of evolution and molecular evolution.

PCB 4745C Animal Physiology. F, S.
Credits: 4; Prerequisite: General Physics or instructor's permission.

Zoology

ZOO 2013C Introductory Zoology Laboratory.
Credits: 3
The anatomy, physiology, life history, and behavior or representative invertebrate and vertebrate animals. Replaced by BSC 2010.

ZOO 2014 Principles of Animal Biology.
Credits: 4; Prerequisite: ZOO 2013C, CHM 2042-2042L.
Considerations of historical development of the science; cell structure and function; replication of molecules, cells and individuals; inheritance, evolution and homeostasis; and complex interrelationships among organisms and their environments. Replaced by BSC 2011.

ZOO 3203C Invertebrate Zoology. F.
Credits: 4
The structure, taxonomy, evolutionary relationships and life histories of the invertebrate animals.

ZOO 3303C Vertebrate Zoology. S.
Credits: 4
The evolution, taxonomy, ecology and behavior of vertebrates. Emphasis is on the adaptations of wild animals to their natural habitats. Laboratory will include field trips.

ZOO 3513C Animal Behavior. S.
Credits: 4
The causes, origins and evolution of animal behavior emphasizing field observations and experiments on the behavior of a variety of animal groups.

ZOO 3605C Comparative Chordate Embryology. S.
Credits: 4
The analysis of development of chordate organ systems accompanied by laboratory work dealing with the frog, chick, and pig.

ZOO 3703C Functional Vertebrate Anatomy. F.
Credits: 4
The morphology of the various chordate animals are accompanied by laboratory work dealing with a selected series of chordates.

ZOO 4235C Animal Parasitology. S.
Credits: 4
Life cycles, morphology, and physiology of the helminth and protozoan parasites of vertebrate animals.

ZOO 4403C Field Problems in Marine Biology. SS.
Credits: 6, Corequisite: ZOO 4404C required.
Survey of major marine taxa, systematics of local marine fauna and flora, familiarization with the marine environment. Laboratory emphasizes field work and independent projects.

ZOO 4404C Integrated Marine Biology. SS.
Credits: 6; Corequisite: ZOO 4403C required.
Physical, biological, and ecological aspects of the marine environment; natural history of common marine and coastal organisms.

ZOO 4473C Avian Biology. S.
Credits: 4; Prerequisite: ZOO 3703C.
The basic biological characteristics of birds which, as exceptionally unique flying vertebrates, are confronted with a spectrum of problems in terms of anatomy, physiology, behavior, migration, and population ecology.

ZOO 4755C Comparative Histology. F.
Credits: 4; Prerequisite: ZOO 3703C.
Comparative aspects of both structure and function of vertebrate tissues

ZOO 4905 Individual Studies in Zoology. F, S, SS.
Credits: 1 to 4; Prerequisite: One year of biology and consent of instructor and chairman of department.
Qualified students and the instructor concerned may choose a particular topic or problem for study. May be repeated for full credit.

ZOO 4926 Special Topics in Zoology. F, S, SS.
Credits: 1 to 4; Prerequisite: Consent of instructor.
Lectures, conferences or laboratory sessions covering selected topics of current interests in Zoology. May be repeated for full credit with change of content.

ZOO 4940 Practical Experience in Teaching Zoology.
Credits: 1††; Prerequisite: Senior status with recommendations from two faculty including the course instructor.
Participation in teaching lower division Zoology courses with practical experience in instructional procedures, testing and grading, course and laboratory preparation and laboratory assistance. Cannot be used to satisfy minimum hour requirement for Zoology major

GRADUATE COURSES

Applied Biology

APB 5415C Radioisotope Theory and Techniques.
Credits: 4; Prerequisite: CHM 3120C or consent of instructor.

Experimental Psychology

EXP 6108 Survey of Sensory Systems.
Credits: 3; Prereq: PCB 4745C or BMS 6510.

EXP 6109 Seminar in Sensory Processes.
Credits: 1††

Geology

GLY 6660 Paleoecology. F.
Credits: 3

Process Biology

PCB 5317C Marine Ecology. F.
Credits: 4

PCB 5415C Behavioral Ecology. F.
Credits: 4; Prereq: PCB 4044C.

PCB 5545 Physiological Genetics.
Credits: 3; Prereq: PCB 3063 or PCB 3653 or equivalent.

PCB 6049 Seminar in Ecology. F, S.
Credits: 2

PCB 6069 Topics in Genetics.
Credits: 1 to 3

PCB 6307C Limnology. S.
Credits: 4

PCB 6605C Principles of Systematic Biology. F.
Credits: 4

PCB 6357C Tropical Biology — An Ecological Approach. S, SS.
Credits: 8

PCB 6377C Physiological Ecology of Vertebrates. F.
Credits: 4

PCB 6379 Seminar in Physiological Ecology. S.
Credits: 1 to 3

PCB 6447C Community Ecology. S.
Credits: 4

PCB 6448C Pollination Ecology. S.
Credits: 4

PCB 6496C Stream Ecology.
Credits: 4

PCB 6605C Principles of Systematic Biology. F.
Credits: 4

PCB 6686C Experimental Population Ecology.
Credits: 3

PCB 6796C Comparative Sensory Physiology.
Credits: 4

Zoology

ZOO 5115C Vertebrate Paleontology. F.
Credits: 3

ZOO 5276C Malacology. S.
Credits: 3

ZOO 5405C The Biology of Marine Animals.
Credits: 3

ZOO 6116C Ancient Vertebrate Faunas. S.
Credits: 3

ZOO 6126 Historical Ecology of the Pleistocene. F.
Credits: 3

ZOO 6207C Advanced Invertebrate Zoology.
Credits: 4

ZOO 6246C Helminthology.
Credits: 4

ZOO 6336C Principles of Systematic Zoology.
Credits: 3

ZOO 6416C Biology of the Amphibia. S.
Credits: 4

ZOO 6456C Ichthyology. S.
Credits: 4

ZOO 6466C Biology of the Reptilia. F.
Credits: 4

ZOO 6477 Birds of World (Lower Orders). F.
Credits: 2

ZOO 6478 Birds of World (Passeriformes). S.
Credits: 2

ZOO 6486C Mammalogy. F.
Credits: 4

ZOO 6506C Ethology.
Credits: 3

ZOO 6816 Zoogeography . F.
Credits: 2

ZOO 6857C Advanced Tropical Zoology. SS.
Credits: 8

ZOO 6905 Individual Studies in Zoology. F, S, SS.
Credits: 1 to 8; max. 14.

ZOO 6910 Supervised Research.
Credits: 1 to 5††

ZOO 6927 Special Topics in Zoology. F, S.
Credits: 1 to 4

ZOO 6939 Seminar in Animal Behavior.
Credits: 1 to 3

ZOO 6940 Supervised Teaching.
Credits: 1 to 5††

ZOO 6971 Master's Research.
Credits: 1 to 15††

ZOO 7980 Doctoral Research.
Credits: 1 to 15††

††Grading is on S-U basis only.

INSTRUCTION, RESEARCH, ADMINISTRATION AND EXTENSION

(The first date indicates the first year of academic employment; the last date, the year of present rank; the asterisk represents interruptions in service or leave of absence.

ABBASCHIAN, GHOLAMREZA JOSE, Ph.D. (University of California)
Associate Professor of Materials Science and Engineering (1980-1980).

ABBOTT, ELIZABETH F., Ph.D. (University of Florida)
Assistant Professor of Physical Sciences and Director of Florida Foundation for Future Scientists (1973-1973).

ABBOTT, THOMAS BENJAMIN, Ph.D (University of Florida)
*Professor and Chairperson, Speech (1955-1978).**

ABBOTT, WESLEY WENDELL, M.Ed.
University School Assistant Professor, P. K. Yonge Laboratory School (1958-1978).

ABDEL-KHALIK, A. RASHAD, Ph.D. (University of Illinois)
Grad. Research Professor of Accounting (1977-1980).

ABDULLA, ELIZABETH CARVER, M.L.S. (Florida State University)
Associate Librarian, Reference and Bibliography (1976-1981).

ABRAMS, ROBERT M., Ph.D., D.D.S. (University of Pennsylvania)
Associate Professor of Obstetrics and Gynecology (1969-1974).

ACHE, BARRY W., Ph.D. (University of California)
Associate Professor of Zoology (1978-1978).

ACHEY, PHILLIP M., Ph.D (Pennsylvania State University)
Professor, Microbiology and Cell Science, (1967-1980).

ACKERMAN, NORMAN, D.V.M. (Auburn University)
Associate Professor, Department of Special Clinical Sciences College of Veterinary Medicine (1979-1979).

ADAMS, BRENT LARSEN, Ph.D. (Ohio State University)
Assistant Professor of Materials Science and Engineering (1980-1980).

ADAMS, DWIGHT, B.S.E. (Henderson State University)
Assistant Coach (1978-1978).

ADAMS, EARNEST DWIGHT, Ph.D. (Duke University)
Professor of Physics (1962-1970).

ADAMS, ELWYN A., M.M. (Conservatoire Royal de Musique)
Associate Professor of Music (1970-1972).

ADAMS, JAMES D., Ph.D. (University of Chicago)
Assistant Professor of Economics (1976-1979).

ADAMS, JOHN E., M.D. (Cornell University Medical College)
Professor and Chairman, Department of Psychiatry (1974-1974).

ADAMS, JOHN P., Ph.D. (University of Wisconsin)
Assistant Professor, Food Science and Human Nutrition (1979-1979).

ADLERZ, WARREN CLIFFORD, Ph.D. (Oregon State University)
Professor, Entomology and Nematology, ARC-Leesburg (1958-1974).

AGEE, D. FRANK, M.D. (Louisiana State University)
Professor of Radiology (1962-1970).

AHSANUDDIN, KHAJA M., M.D. (Osmania University, India)
Associate Professor and Chief of Psychiatry (1980-1980).

AGRESTI, ALAN G., Ph.D (University of Wisconsin)
Associate Professor of Statistics (1972-1977).

AGUILAR, ANTONIO MANUEL, M.S. (Purdue University)
Associate Professor of Civil Engineering (1980-1980).

AHTOLA, OLLI T., Ph.D. (University of Illinois)
Visiting Associate Professor of Marketing (1981-1981).

AHMED, ESAM MAHMOUD, Ph.D (University of Maryland)
Professor, Food Science and Human Nutrition (1964-1973).

AJINKYA, BIPIN B., Ph.D. (University of Minnesota)
Associate Professor of Accounting (1975-1981).

AKERS, RONALD L., Ph.D. (University of Kentucky)
Professor and Chairman of Sociology (1980-1980).

ALBA, JOSEPH W. Ph.D. (Temple University)
Assistant Professor of Marketing (1981-1981).

ALBREGTS, EARL EUGENE, Ph.D. (Purdue University)
Professor, Soils Science, AREC-Dover (1967-1980).

ALBRIGO, LEO GENE, Ph.D. (Rutgers University)
Professor, Fruit Crops, AREC-Lake Alfred (1968-1979).

ALDERSON, THOMAS H., D.D.S. (University of Tennessee)
Associate Professor of Removable Prosthodontics (1976-1976).

ALDRICH, HENRY CARL, Ph.D. (University of Texas)
Professor, Microbiology and Cell Science (1966-1976).

ALEXANDER, ALICE ELIZABETH, B.S. in L.S.
*Librarian and Chairperson, P.K. Yonge Library of Florida History (1951-1976) **

ALEXANDER, DORIS J., M.S.N. (University of Washington)
Instructor, College of Nursing (1981-1981).

ALEXANDER, JAMES A., M.D. (Duke University)
Professor of Surgery and Chief of Thoracic and Cardiovascular Surgery, VAMC (1977-1981).

ALEXANDER, JOHN F., Ph.D. (University of Florida)
Professor of Urban and Regional Planning (1975-1980).

ALEXANDER, RAYMOND H., M.D. (Duke University)
Associate Professor of Surgery, VAMC (1976-1980).

ALEXANDER, RONALD W., M.D. (Tulane University)
Professor of Pathology, VAMC (1972-1977).

ALEXANDER, RUTH HAMMACK, Ed.D. (University of Indiana)
Professor of Physical Education (1969-1974).

ALEXANDER, SAMUEL KERN, Ed.D. (University of Indiana)
Professor of Education (1968-1970).

ALFANT, MARC, D.D.S., M.M.Sc. (Georgetown University)
Assistant Professor of Periodontics (1981-1981).

ALGINA, JAMES J., Ed.D. (University of Massachusetts)
Associate Professor (1978-1980).

ALGOZZINE, ROBERT FRANCIS, Ph.D. (Pennsylvania State University)
Associate Professor of Special Education (1976-1979).

ALI, ARSHAD, Ph.D. (University of Salford, England)
Associate Professor, Entomology and Nematology, AREC-Sanford (1978-1980).

ALLEN, BILLY JAY, M.A. (University of Florida)
Associate Professor, 4-H and Extension Youth Programs (1953-1968).

ALLEN, CHARLES M. JR., Ph.D. (Brandeis University)
Professor of Biochemistry and Molecular Biology (1967-1979).

ALLEN, DON L., D.D.S. (University of North Carolina) M.S. (University of Michigan)
Dean, College of Dentistry, and Professor of Periodontics (1970-1974).

ALLEN, ERIC R., Ph.D. (University of Liverpool, England)
Professor of Environmental Engineering Sciences (1981-1981).

ALLEN, JOHN JAY, Ph.D (University of Wisconsin)
Professor of Spanish (1960-1972).

ALLEN, JON C., Ph.D. (University of California at Riverside)
Associate Professor, Entomology and Nematology, AREC-Lake Alfred (1973-1979).

ALLEN, LEON HARTWELL, JR., Ph.D. (Cornell University)
Associate Professor, Agronomy (1974-1978).

ALLEN, ROBERT EUGENE, Ed.D. (University of Florida)
Professor of Professional Physical Education (1967-1979).

ALLEN, ROBERT JOHN, JR., Ph.D. (University of Maryland)
Associate Professor, Agronomy, AREC-Belle Glade (1950-1979).

ALVAREZ, JOSE, Ph.D. (University of Florida)
Assistant Professor, Food & Resource Economics, AREC-Belle Glade (1977-1977).

AMATEA, ELLEN S., Ph.D. (Florida State University)
Assistant Professor of Education (1974-1974).

AMBROSE, JOHN RUSSELL, Ph.D. (University of Maryland)
Associate Professor of Materials Science and Engineering (1978-1978).

AMELANG, JAMES S., M.A. (Johns Hopkins University)
Assistant Professor of History (1981-1981).

AMMERMAN, CLARENCE BAILEY, Ph.D. (University of Illinois)
Professor, Animal Science (1958-1970).

ANDERSEN, THORKILD W., M.D. (University of Copenhagen)
Professor of Anesthesiology (1958-1969).

ANDERSON, BARBARA JOY, B.S.C. (Utah State University)
Associate Professor of English (1973-1978).

ANDERSON, CARL ANDREW, Ph.D. (Iowa State University)
Associate Professor, Soil Science, AREC-Lake Alfred (1962-1968).

ANDERSON, GENE CRANSTON, Ph.D. (University of Wisconsin)
Professor of Nursing (1977-1977).

ANDERSON, JAMES W., M.B.A. (University of Chicago)
Associate Professor of Journalism and Communications (1973-1978).

ANDERSON, JOHN F., Ph.D. (University of Florida)
Associate Professor of Zoology (1968-1974).

ANDERSON, PETER A. V., Ph.D. (University of California)
Assistant Professor of Physiology (1981-1981).

ANDERSON, ROLAND CARL, Ph.D. (University of Florida)
*Professor of Engineering Sciences (1961-1973).**

ANDERSON, TIMOTHY J., Ph.D. (University of California at Berkley)
Assistant Professor of Chemical Engineering (1978-1978).

ANDRES, JOEL M., M.D. (SUNY-Buffalo)
Associate Professor of Pediatrics and Chief of Pediatric Gastroenterology (1977-1981).

ANDREW, CHRIS W., Ph.D. (Michigan State University)
Professor, Food and Resource Economics, and Associate Director, International Programs, IFAS (1971-1980).

ANDREW, RAYMOND C., Ph.D. (Purdue University)
Associate Professor and Director of Personnel Affairs, IFAS (1973-1976).

ANDREWS, KEITH L., Ph.D. (University of California at Riverside)
Assistant Research Scientist, International Programs (Honduras), IFAS (1978-1978).

ANDREWS, MICHAEL D., M.A. (Livingston University)
Assistant Football Coach (1981-1981).

ANDREWS, SAMUEL DALTON, Ph.D. (University of Connecticut)
Assistant Professor of Education (1969-1971).

ANDRIOLA, MARY R., M.D. (Duke University)
Associate Professor of Neurology (1974-1974).

ANGELIDES, KIMON J., Ph.D. (University of California)
Assistant Professor of Biochemistry and Molecular Biology (1981-1981).

ANGORN, RICHARD ARTHUR, J.D. (University of Florida)
Associate Professor of Pharmacy (1968-1973).

ANTHONY, DAVID SALISBURY, Ph.D. (University of Wisconsin)
Professor of Botany, Arts and Sciences (1955-1972).

ANTONINI, GUSTAVO A., Ph.D. (Columbia University)
Professor of Latin American Studies and Geography (1970-1978).

ANTONSON, DONALD E., D.D.S. (Loyola University)
Associate Professor of Operative Dentistry (1975-1980).

APP, JAMES L., Ph.D. (University of Wisconsin)
Professor and Assistant Dean, Agricultural Programs, Florida Cooperative Extension Service (1973-1980).

APPLEDORF, HOWARD, Ph.D. (Mass. Institute of Technology)
Professor, Food Science and Human Nutrition (1969-1978).

ARAFA, ABDEL-MONIEM S., Ph.D. (Mississippi State University)
Associate Professor, Poultry Science (1975-1981).

ARAUJO, OSCAR EDUARDO, Ph.D. (Purdue University)
Professor of Pharmacy Practice (1962-1974).

ARBUCKLE, W. BRIAN, Ph.D. (University of North Carolina)
Assistant Professor of Environmental Engineering Sciences (1979-1979).

ARCHER, WAYNE R., Ph.D. (Indiana University)
Assistant Professor of Real Estate and Urban Analysis (1971-1971).

ARCHER, JAMES JR., Ph.D. (Michigan State University)
Director, University Counseling Center (1981-1981).

ARDITTI, FRED D., Ph.D. (Mass. Institute of Technology)
Professor of Economics, Chairperson, Department of Economics (1971-1977).

AREY, SANDRA S., Ph.D. (University of Florida)
Assistant Professor of Sociology in Psychiatry (1976-1976).

ARIET, MARIO, Ph D. (University of Florida)
Professor of Community Health and Family Medicine and Chief Of Computer Sciences Division (1967-1981).

ARMSTRONG, DONALD, Ph.D (University of Oslo)
Associate Professor of Ophthalmology (1981-1981).

ARMSTRONG, HELENJANE, M.L.S. (University of Oklahoma)
Associate Librarian, Reference and Bibliography (1973-1973).

ARNOLD, CALVIN EUGENE, Ph.D. (Michigan State University)
Center Director and Professor, Fruit Crops, ARC-Monticello (1969-1979).

ARNOLD, PHILLIP W., P.A C. (Baylor University)
Physician's Assistant (1981-1981).

ARRINGTON, LARRY R., Ph.D (Ohio State University)
Visiting Assistant Professor, Agricultural and Extension Education (1981-1981)

ARVANITIS, LOUKAS G., Ph.D. (University of California at Berkeley)
Professor, Forest Resources and Conservation (1976-1976).

ASBURY, ATWOOD C., D.V M (Michigan State University)
Associate Professor, Department of Reproduction, College of Veterinary Medicine (1977-1977).

ASHTON, PATRICIA TEAGUE, Ph.D. (University of Georgia)
Associate Professor of Education (1974-1979).

ASHWORTH, GORDON, A.A. Diploma (Architectural Associate, London, England)
Associate Professor of Architecture (1981-1981).

ASQUITH, RICHARD LAVERNE, D.V.M. (Michigan State University)
Associate Professor, Animal Science (1975-1975).

ASTACIO, JULIO E., M D (University of El Salvador)
Assistant Professor (1980-1981)

ATIASE, ROWLAND K., Ph.D (University of California at Berkeley) C.P.A.,
Assistant Professor of Accounting (1979-1979).

ATILAND, RAYMOND A., Ph.D (University of California)
Assistant Professor, Plant Pathology, AREC-Ft. Lauderdale (1977-1977).

ATON, STEPHEN F., M.A. (University of Missouri)
Development Director, Florida State Museum (1981-1981).

AUFFENBERG, WALTER, Ph.D. (University of Florida)
*Curator of Herpetology, Florida State Museum and Joint Professor of Zoology (1956-1968).**

AUGUSTIN, BRUCE J., Ph.D. (Ohio State University),
Assistant Professor, Ornamental Horticulture, AREC-Ft. Lauderdale (1979-1979).

AUXTER, THOMAS P., Ph.D. (Bryn Mawr College)
Associate Professor of Philosophy (1973-1979).

AVELLANEDA, ANDRES OSCAR, Ph.D. (University of Illinois)
Assistant Professor of Spanish (1979-1979).

AVILA, DONALD LEE, Ed.D. (University of Nebraska)
Professor of Education (1963-1971).

AXSON WILLIAM Y., B.A. (Mercer University)
Associate in Chemistry (1980-1980).

AYOUB, ELIA M., M.D. (American University of Beirut)
Professor of Pediatrics and Chief of Infectious Diseases and Immunology, and Professor of Immunology and Medical Microbiology (1969-1971).

BACHMAN, KERMIT C., Ph.D. (University of Maryland)
Associate Professor, Dairy Science (1971-1977).

BACON, PHILIP, PH.D (University of Tennessee)
Associate Professor of Mathematics (1965-1968).

BAER, HERMAN, M.D. (Basel)
Director of Clinical Microbiology and Associate Professor of Pathology and Immunology and Medical Microbiology (1966-1970).

BAGNALL, LARRY OWEN, Ph.D. (Cornell University)
Professor, Agricultural Engineering (1969-1981).

BAIG, MIZRA M., Ph.D. (SUNY-Buffalo)
Assistant Research Scientist of Medicine (1975-1978).

BAILEY, K. E., III, Ph.D. (University of North Carolina)
Assistant Professor of Accounting (1976-1976).

BAILEY, LYNN BONNETTE, Ph.D. (Purdue University)
Assistant Professor, Food Science and Human Nutrition (1977-1977).

BAILEY, ROBERT LEO, M.S.E. (University of Florida)
Associate Professor of Electrical Engineering (1960-1972).

BAILEY, THOMAS LEE, Ph.D. (University of Chicago)
Professor of Physics, Chemistry, and Electrical Engineering (1953-1963).

BAIRD, BRIDGET BOS, Ph.D. (State University of New York at Buffalo)
Assistant Professor of Mathematics (1976-1976).

BAIRD, CARL DIRELLE, Ph.D. (University of Florida)
Associate Professor, Agricultural Engineering (1967-1976).

BAKER, AMANDA S., Ph.D. (University of Florida)
Associate Dean and Associate Professor, College of Nursing (1974-1981).

BAKER, FRANK SLOAN, JR., M.S.A. (University of Florida)
Professor, Animal Science, AREC-Quincy (1945-1963).

BAKER, STEPHEN P., Ph.D. (University of Ashton, England)
Assistant Professor of Pharmacology and Therapeutics (1979-1979).

BAKER, SUSAN READ, Ph.D. (Harvard University)
Associate Professor of French (1976-1979).

BALANOFF, NEAL, Ph.D. (Northwestern University)
Associate Director, Division of Learning Resources and Communications, J. Hillis Miller Health Center, and Professor of Dental Education (1973-1979).

BALCIUNAS, JOSEPH, Ph D (University of Florida)
Assistant Research Scientist, Entomology and Nematology AREC-Ft. Lauderdale (1977-1978).

BALDWIN, GORDON LEE, Ph.D. (University of Virginia)
University School Assistant Professor, P.K. Yonge Lab School (1981-1981).

BALDWIN, FLETCHER NATHANIEL, JR., LL.M. (Yale)
Professor of Law (1962-1968).

BALDWIN, LLOYD BARRINGTON, M.Agr. (University of Florida)
Associate Professor, Agricultural Engineering (1967-1977)

BALDWIN, NANCY, Ed.D. (University of Florida)
University School Assistant Professor, P.K. Yonge Laboratory School (1970-1970).

BALDWIN, RUTH, Ph.D. (University of Illinois)
Librarian and Curator, Children's Literature Collection (1955-1977).

BALL, JOSEPH EDWARD, M.S. (George Washington University)
Business Manager, Division of Housing (1970-1977).

BALLARD, STANLEY SUMNER, Ph.D. (University of California, Berkeley)
Distinguished Service Professor of Physics (1958-1978).

BALLENTINE, J. GREGORY, Ph.D. (Rice University)
Professor of Economics (1974-1981).

BALLINGER, WILLIAM E. JR., M.D. (University of Florida)
Assistant Professor of Pathology, VAMC (1977-1977).

BALTENSPERGER, DAVID D., Ph.D. (New Mexico State University)
Assistant Professor, Agronomy (1980-1980).

BARANOWSKI, RICHARD MATTHEW, Ph D. (University of Connecticut)
Professor, Entomology and Nematology, AREC-Homestead (1956-1967).

BARBOUR, JOHN R.
Assistant Director of Personnel, Shands Teaching Hospital and Clinics, Inc. (1981-1981).

BARFIELD, CARL S., Ph.D. (Texas A & M University)
Associate Professor, Entomology and Nematology (1976-1981).

BARGER, BENJAMIN, Ph.D. (Duke University)
Clinical Psychologist (1959-1959).

BARKSDALE, E.C., Ph.D. (Ohio State University)
Associate Professor of Russian (1972-1972).

BARMORE, CHARLES R., Ph.D. (University of Florida)
Associate Professor, Fruit Crops, AREC-Lake Alfred (1972-1977).

BARNARD, GEORGE W., M.D. (University of North Carolina)
Professor of Psychiatry, VAMC (1963-1980).

BARNEA, MEIR, B.S. (University of Minnesota)
Provisional Assistant Professor of Economics (1979-1979).

BARNES, DAVID E., Ph.D., (Purdue University)
Assistant Research Scientist of Neuroscience (1979-1979).

BARNETT, RONALD DAVID, Ph.D. (Purdue University)
Associate Professor, Agronomy, AREC-Quincy (1970-1975).

BARRETT, DOUGLAS J., M.D. (University of South Florida)
Assistant Professor of Pediatrics (1980-1980).

BARRETT, JAMES EDWARD, Ph.D. (Michigan State University)
Assistant Professor, Ornamental Horticulture (1978-1978).

BARTLETT, MARION CLEMENT, M.E.E. (University of Florida)
Engineer in Electrical Engineering (1970-1981).

BARTLETT, RODNEY J., Ph.D. (University of Florida)
Professor of Chemistry (1981-1981).

BARTLEY, ERNEST R., Ph.D. (University of California)
Professor of Urban and Regional Planning (1949-1955).

BARTON, PAULINE HINTON, Ed.D. (University of Florida)
Professor, College of Nursing (1959-1973).

BARTZ, JERRY A., Ph.D. (University of Wisconsin)
Associate Professor, Plant Pathology (1969-1975).

BASHAM, HERSY GRANT, Ph.D. (Cornell University)
Assistant Professor,Plant Pathology AREC-Ft. Lauderdale (1976-1976).

BASILE, GIUSSEPE, State Doctor Degree (University of Bologna - Italy)
Professor of Electrical Engineering (1979-1980).

BASS, RONALD K., Ph.D. (Michigan State University)
Associate Professor of Dental Education, (1972-1977).

BASSETT, MARK JULIAN, Ph.D. (University of Maryland)
Associate Professor, Vegetable Crops (1970-1977).

BAST, ROBERT D., M.D. (University of Wisconsin)
Chief Resident and Instructor (1981-1981).

BATES, ROBERT PARKER, Ph.D. (M.I.T.)
Professor, Food Science and Human Nutrition (1967-1979).

BATES, STANLEY RAYMOND, Ph.D. (University of Florida)
Associate Engineer in Materials Science and Engineering (1969-1979).

BATICH, CHRISTOPHER DAVID, Ph.D. (Rutgers University)
Associate Professor of Materials Science and Engineering (1981-1981).

BATORY, DON S., Ph.D. (University of Toronto)
Assistant Professor of Computer and Information Sciences, College of Engineering (1980-1980).

BATTAN, SUZETTE MARY, Ph.D. (Eastman School of Music)
Assistant Professor of Music (1981-1981).

BATTENFIELD, JOHN, M.A.
Director, University Relations (1981-1981).

BATTERSON, TED R., Ph.D. (Michigan State University)
Assistant Professor, School of Forest Resources and Conservation, AREC-Ft. Lauderdale (1980-1980).

BATTISTE, ANITA LUISE, M.L.S. (Florida State University)
Assistant Librarian, IFAS Library (1981-1981).

BATTISTE, MERLE ANDREW, Ph.D. (Columbia University)
Professor of Chemistry (1961-1970).

BAUER, JOHN E., D.V.M., Ph.D. (University of Illinois)
Assistant Professor, Department of Metabolism, College of Veterinary Medicine (1980-1980).

BAUER, RUSSELL, Ph.D. (Pennsylvania State University)
Assistant Professor of Clinical Psychology (1980-1980).

BAUGHMAN, RONALD A., D.D.S., M.S.D., (Medical College of Virginia)
Professor of Oral Medicine and Pathology (1974-1978).

BAUM, ROBERT J., Ph.D. (Ohio State University)
Professor and Chair of Philosophy (1981-1981).

BAUMER, G. HARRY, III, B.S.B.A. (University of Florida)
Director of Purchasing (1965-1966).

BAUMGOLD, DEBORAH, Ph.D. (Princeton University)
Assistant Professor of Political Science (1980-1980).

BAXTER, TERRY BAIN, M.Ed. (University of Florida)
University School Instructor, P.K. Yonge (1981-1981).

BAZER, FULLER WARREN, Ph.D. (North Carolina State University)
Professor, Animal Science (1968-1978).

BEARD, DAVID R., B.S.J. (University of Florida)
Coordinator of Educational Media, Learning Resources and Communications, J. Hillis Miller Health Center (1968-1980).

BEATTY, CHARLES LEE, Ph.D (University of Massachusetts)
Professor of Materials Science and Engineering (1979-1979).

BEATY JR., THOMAS C., B.S. (University of Florida)
Associate in Lab Animal/Wildlife Medicine, Department Special Clinical Sciences, College of Veterinary Medicine, and Assistant Director Health Center Animal Resources (1979-1979).

BEAULIEU, LIONEL, Ph.D. (Purdue University)
Assistant Professor, 4-H and other Extension Youth Programs (1977-1977).

BECHT, PAUL A., Ed.D. (University of Florida)
University School Associate Professor, P. K Yonge Laboratory School (1968-1978).

BECHTEL, GORDON G., Ph.D. (University of Michigan)
Professor of Marketing (1974-1974).

BECKER, H NEIL, D.V.M., M.S. (University of Illinois)
Associate Professor, Preventive Medicine, College of Veterinary Medicine, IFAS (1974-1974).

BECKER, WILLIAM J., Ph.D. (Ohio State University)
Assistant Research Scientist, Agricultural and Extension Education (1979-1979).

BEDNAREK, ALEXANDER ROBERT, Ph.D. (SUNY - Buffalo)
Professor of Mathematics and Chairperson of Department (1963-1969).

BEEDE, DAVID K., Ph.D. (University of Kentucky)
Assistant Professor, Dairy Science (1980-1981).

BEEGHLEY, LEONARD, Ph.D. (U. of California, Riverside)
Associate Professor of Sociology (1973-1978).

BEELAND, E. STEVE, B.A. (University of Florida)
Women's Tennis Coach (1981-1981).

BEEMAN, CARL EDGAR, Ed.D. (Cornell University)
Professor and Chairman, Agricultural and Extension Education (1967-1978).

BEILOCK, RICHARD P., Ph.D. (Pennsylvania State University)
Assistant Professor, Food and Resource Economics (1981-1981).

BEISTLE, MARGARET R., M.A. (University of Tulsa)
Assistant Dean for Student Services (1964-1975)

BELAND, ROBERT MICHAEL, Ph.D. (University of Maryland)
Assistant Professor of Recreation (1980-1980).

BELAR, CYNTHIA D., Ph.D. (Ohio University)
Associate Professor of Clinical Psychology (1974-1980).

BELL, JOHN U., Ph.D. (Dalhousie University)
Associate Professor of Preventive Medicine, College of Veterinary Medicine, IFAS (1980-1980).

BENEDICT, BARRY A., Ph.D. (University of Florida)
Professor of Civil Engineering (1980-1980).

BENGSTON, JOHN KONSTANT, Ph.D. (University of Toledo)
Assistant Professor of Education (1974-1974).

BENNETT, CARROLL G., D.D.S.,M.S. (Medical College of Virginia)
Professor and Chairman of Pediatric Dentistry (1973-1974).

BENNETT, GERALD THOMAS, J.D. (University of Florida)
*Professor of Law (1968-1974).**

BENNETT, JERRY MAC, Ph.D. (University of Nebraska)
Assistant Professor, Agronomy (1979-1979).

BENNETT, RICHARD F., M.S. (Florida State University)
Assistant Librarian, Circulation (1978-1978).

BENSON, MARCELLA, M.A., (University of Iowa)
Instructor of Physical Education (1981-1981).

BENSON, HAROLD PHILIP, Ph.D (Northwestern University)
Assistant Professor of Management (1979-1979).

BERARDO, FELIX M., Ph.D. (Florida State University)
Professor of Sociology (1969-1973).

BERG, SANFORD V., Ph.D. (Yale University)
Associate Professor of Economics (1971-1976).

BERG, WILLIAM KEITH, Ph.D. (University of Wisconsin)
Associate Professor of Psychology (1973-1976).

BERGER, JERRY J., M.D. (Duke University)
Assistant Professor of Sociology (1981-1981).

BERGER, RICHARD DONALD, Ph.D. (University of Wisconsin)
Professor, Plant Pathology (1967-1976).

BERGERON, RAYMOND J., Ph.D. (Brandeis University)
Associate Professor of Medicinal Chemistry (1979-1979).

BERGMAN, JAY, M.A. (Appalachian State)
Head Baseball Coach (1975-1975).

BERKHEISER, VAUGHN ELWOOD, Ph.D. (Michigan State University)
Assistant Professor, Soil Science (1977-1977).

BERMAN, LAWRENCE S., M.D. (Jefferson Medical College)
Assistant Professor of Anesthesiology (1978-1978).

BERNARD, DONALD HARRY, Ed.D. (Columbia University)
Associate Professor of Education (1969-1976).

BERNARD, H. RUSSELL, Ph.D. (University of Illinois)
Professor and Chairman of Anthropology (1979-1979).

BERNER, LEWIS, Ph.D. (University of Florida)
Professor of Zoology and Entomology (1946-1978).

BERNS, KENNETH I., M.D., Ph.D. (Johns Hopkins University)
Professor and Chairman of Immunology and Medical Microbiology, and Professor of Pediatrics (1976-1976).

BERNS, LAURA LOUISE, M.A.T. (Johns Hopkins University)
Instructor, Office of Instructional Resources (1976-1976).

BERTRAND, JOSEPH E., Ph.D. (Louisiana State University)
Professor, Animal Science, ARC-Jay (1966-1977).

BESCH, EMERSON L., Ph.D. (University of California at Davis)
Professor, Department of Metabolism and Associate Dean, College of Veterinary Medicine (1974-1981).

BEST, G. RONNIE, Ph.D. (University of Georgia)
Assistant Research Scientist of Environmental Engineering Sciences (1979-1979).

BETHART, HECTOR, D.M.D. (Tufts University)
Assistant Dean for Advanced Education and Associate Professor of Community Dentistry (1978-1978).

BETHEA, SALLY BROOK, M.L.S.
Associate Librarian, Catalog (1959-1970).

BEVIS, HERBERT ANDERSON, Ph.D. (University of Florida)
Professor of Environmental Engineering Sciences and Associate Dean for Academic Affairs, College of Engineering (1961-1981).

BEYETTE, THOMAS KENT, Ph.D. (University of Texas at Austin)
Associate Professor of English (1969-1974).

BICKFORD, DAVID M., B.B.A., C.P.A. (Eastern New Mexico University)
Director, Office of Internal Control (1964-1975).

BIGGS, ROBERT HILTON, Ph.D. (Purdue University)
Professor, Fruit Crops (1957-1969).

BIGGS, THOMAS S., JR., L.L.B.
University Attorney (1969-1969)

BIGHAM, JERRY L., M.S. (University of Florida)
Academic Administrator and Assistant in Information Systems (1979-1981).

BINGHAM, ROSIE PHILLIPS, Ph.D. (Ohio State University)
University Counseling Psychologist, University Counseling Center (1978-1978)

BISHOP, JOHN P., Ph.D. (Texas A & M University)
Associate Research Scientist, International Programs, IFAS (1972-1978)

BITTON, GABRIEL, Ph.D. (Hebrew University - Israel)
Associate Professor of Environmental Engineering Sciences (1974-1977)

BLACK, ROBERT JOHN, Ph.D. (University of Tennessee)
Associate Professor, Ornamental Horticulture (1975-1980).

BLAIR, BILLY R., M..T (University of Montevallo)
Continuing Education Coordinator, Treed Center, Division of Continuing Education (1976-1976).

BLAIR, ROGER DUNCAN, Ph.D. (Michigan State University)
Professor of Economics (1970-1978).

BLAKE, JEROME, BSMT (University of Florida)
Assistant In Community Health and Family Medicine (1976-1981).

BLAKESLEE, GEORGE M., Ph.D. (Duke University)
Associate Professor, Forest Resources and Conservation (1976-1981).

BLAKEY, ARCH FREDRIC, Ph.D. (Florida State University)
Associate Professor of History and Director of the Florida Studies Program (1969-1974).

BLANCHARD, FRANK NELSON, Ph.D. (University of Michigan)
Professor of Geology (1958-1976).

BLASHFIELD, ROGER K., Ph.D. (Indiana University)
Associate Professor of Clinical Psychology in Psychiatry (1977-1977).

BLAZQUEZ, CARLOS H., Ph.D. (University of Florida)
Associate Professor, Plant Pathology, AREC-Lake Alfred (1966-1976).

BLEIWEIS, ARNOLD S., Ph.D. (Pennsylvania State University)
Professor, Microbiology and Cell Science (1967-1976).

BLEVINS, LYNN H., B.S.E. (University of Oklahoma)
Head Golf Coach (1981-1981).

BLISS, ERNEST L., D.V.M. (Cornell University)
Assistant Professor, Department of Preventive Medicine, College of Veterinary Medicine (1979-1980).

BLOCK, ALAN JAY, M.D. (Johns Hopkins University)
Professor of Medicine and Chief of Pulmonary Medicine, Anesthesiology and Medicine, VAMC (1970-1975).

BLOCK, EDWARD R., M.D. (Johns Hopkins University)
Associate Professor of Medicine (1975-1978).

BLOCK, G.H., M.A.T. (University of Florida)
Lecturer of Law (1975-1978).

BLOCK, LOUIS, Ph.D. (Northwestern)
Associate Professor of Mathematics (1973-1978).

BLOCK, SEYMOUR STANTON, Ph.D. (Pennsylvania State University)
Professor of Chemical Engineering (1944-1966).

BLOOM, STEPHEN A., Ph.D. (University of Washington)
Assistant Professor of Zoology (1976-1976).

BLOOMBERG, MARK S., D V M. (Purdue University), M.S. (Colorado State)
Assistant Professor, Department of Surgical Sciences, College of Veterinary Medicine (1979-1979).

BLUE, WILLIAM GUARD, Ph.D. (University of Missouri)
Professor, Soil Science (1950-1963).

BLUME, ROBERT ALLEN, Ph.D (University of Michigan)
Professor of Education (1969-1979).

BOCK, E. WILBUR., Ph.D. (Iowa State University)
Professor of Sociology (1963-1978).

BOCZKIEWICZ, JON, M.Ed. (University of Florida)
University School Instructor, P.K. Yonge (1981-1981).

BODINE, WILLIS RAMSEY JR., M.M. (University of Texas)
Professor of Music (1959-1976).

BODO, TANYA, M.A. (University of Florida)
Assistant Professor, College of Nursing (1974-1977).

BODOR, NICHOLAS S., Ph.D. (Babes-Bolyai University)
Professor and Chairman of Medicinal Chemistry (1979-1979).

BOGGESS, WILLIAM G., Ph.D. (Iowa State University)
Assistant Professor, Food Science and Resource Economics (1979-1979).

BOLCH, WILLIAM EMMETT, JR., Ph.D. (University of California)
Professor of Environmental Engineering Sciences and Acting Department Chairman (1966-1981).

BOLDUC, ELROY JOSEPH, Ed.D (University of Tennessee)
Professor of Education (1969-1979).

BOMBERGER, WILLIAM A., Ph.D. (Brown University)
Associate Professor of Economics (1977-1977).

BONNEVILLE, DOUGLAS A., Ph.D. (Ohio State University)
Professor of French (1963-1976).

BOOTE, KENNETH JAY, Ph.D. (Purdue University)
Associate Professor, Agronomy (1974-1979).

BOTTCHER, ADELBERT BRACE, Ph.D. (Purdue University)
Assistant Professor, Agricultural Engineering (1978-1978).

BOVA, FRANK J., Ph.D. (University of Florida)
Assistant Professor of Radiation Therapy (1976-1978).

BOWDEN, LOIS A., B.H.S. (University of Florida)
Director of Quality Assurance, Shands Teaching Hospital and Clinics, Inc. (1975-1975).

BOWERS, DAWN, Ph.D (University of Florida)
Assistant Professor of Neurology (1980-1980).

BOWES, GEORGE E., Ph.D. (University of London, England)
Associate Professor of Botany, Arts and Sciences (1972-1978).

BOWLES, RICHARD WILLIAM, M.S. (Indiana University).
Professor of Music (1958-1967).

BOWMAN, THOMAS THEODORE, Ph.D. (Tulane University)
Associate Professor of Mathematics (1970-1980).

BOYCE, RICHARD P., Ph D. (Yale University)
Professor of Biochemistry and Molecular Biology (1971-1971).

BOYD, CLIFFORD ALLEN, Ed.D. (Boston University)
Dean, College of Physical Education, Health, and Recreation and Professor of Professional Physical Education (1950-1970)

BOYD, R. LEE, Ph.D., (Auburn University)
Assistant Professor of Pediatrics (1981-1981).

BOYETT, JAMES M., Ph D. (Michigan State University)
Associate Research Scientist of Statistics (1974-1980).

BOYKIN, WILLIAM HENRY, JR., Ph.D. (Stanford University)
Professor of Engineering Sciences; Professor of Electrical Engineering; and Professor of Industrial and Systems Engineering (1967-1975).

BOYLE, MICHAEL D.P., Ph.D (Chester Beatty Research Institute, England)
Associate Professor of Immunology and Medical Microbiology (1980-1980).

BOYLES, JESSE V., III, Ph.D. (University of Florida)
Assistant Professor of Accounting (1975-1975).

BOYSEN, BETTE E., M.D. (Loyola Univ.)
Associate Director for Clinical Services (1975-1980).

BOYSEN, PHILIP G., M.D. (Loyola-Stritch)
Associate Professor of Medicine and Anesthesiology (1977-1981).

BOZEMAN, MICHAEL L., M.A. (University of South Carolina)
Assistant Head Track Coach (1979-1979).

BRACKBILL, YVONNE, Ph.D. (Stanford)
Graduate Research Professor of Psychology, Obstetrics, Gynecology, and Pediatrics (1975-1975).

BRADDOCK, ROBERT J., Ph.D. (Michigan State University)
Professor, Food Science and Human Nutrition, AREC-Lake Alfred (1970-1981).

BRADHAM, DOUGLAS D., Ph.D. (University of North Carolina)
Assistant Professor Health Care Administration (1981-1981).

BRADLEY, RICHARD E., D.V.M., Ph.D. (University of Georgia)
Professor, Preventive Medicine, College of Veterinary Medicine, IFAS (1968-1968).

BRANCH, MARC NICHOLS, Ph.D. (University of Maryland)
Associate Professor of Psychology (1973-1976).

BRANDMAN, RUSSELLA, Ph.D. (Florida State University)
Associate Professor of Theatre (1973-1978).

BRANDNER, EUGENE A., B.Arch. (University of Florida)
University Physical Planning Consultant, Facilities Planning and Operations, J. Hillis Miller Health Center (1975-1975).

BRANTLEY, RICHARD ESTES, Ph.D. (Princeton University)
Associate Professor of English and Coordinator for Advisement (1969-1974).

BRASHER, JAMES JACKSON, Ph.D. (Louisiana State University)
Associate Dean and Professor (4-H), Florida Cooperative Extension Service (1973-1979).

BRASK, WILLARD JOHN GUSTAVE, M.M. (University of Michigan)
Professor of Music (1963-1977).

BRAUN, R. KENNETH, D.V.M. (Cornell University), M.S. (University of California at Davis)
Professor, Department of Preventive Medicine, College of Veterinary Medicine (1978-1978).

BRAYLAN, RAUL C., M.D. (Buenos Aires Medical School)
Professor of Pathology (1977-1980).

BRECKE, BARRY JOHN, Ph.D. (Cornell University)
Associate Professor, Agronomy, ARC-Jay (1975-1981).

BRECHNER, BEVERLY L., Ph.D. (Louisiana State University)
Associate Professor of Mathematics (1968-1971).

BREDAHL, A. CARL, Ph.D. (Pittsburgh University)
Associate Professor of English (1970-1976).

BREEDEN, CARL W., M.S. (Indiana University)
Assistant Professor, IFAS Editorial (1978-1978).

BREEZE, MARSHALL H., M.A. (University of Florida)
Associate Professor, IFAS Editorial (1974-1980).

BRENNOCK, WILLIAM E., M.D. (University of Nebraska), Ph.D. (University of South Dakota)
Assistant Professor of Obstetrics and Gynecology (1980-1980).

BREY, WALLACE SIEGFRIED, JR., Ph.D. (University of Pennsylvania)
Professor of Chemistry (1952-1964).

BRIGHAM, EUGENE F., Ph.D. (University of California at Berkeley)
Graduate Research Professor (1971-1971).

BRIGHT, ROBERT W., M.D. (George Washington University)
Associate Professor of Orthopaedic Surgery and Chief of Pediatric Orthopaedic Services (1974-1977).

BRIGHT, RONALD M., D.V.M. (Ohio State)
Instructor, Department of Surgical Sciences, College of Veterinary Medicine (1981-1981).

BRITT, MARY STEVENSON, M.S. (Bowman-Gray School of Medicine)
Chairman and Associate Professor, Department of Medical Technology (1974-1974).

BRITTON, GEORGE V., M.B.A. (Bernard Baruch College)
Director of Planning, Shands Teaching Hospital and Clinics, Inc. (1979-1981).

BRLANSKY, RONALD HILLIN, Ph.D. (Louisiana State University)
Assistant Professor, Plant Pathology, AREC-Lake Alfred (1981-1981).

BROCK, ROBERT W., B.A. (Union College)
Hospital Controller, Shands Teaching Hospital and Clinics, Inc. (1978-1978).

BROCKMANN, H. JANE, Ph.D. (University of Wisconsin)
Associate Professor of Zoology (1976-1981).

BRODKORB, PIERCE, Ph.D. (University of Michigan)
Professor of Zoology (1946-1955).

BROLMANN, JOHANNES BERNARDUS, Ph.D. (University of Florida)
Associate Professor, Agronomy, AREC-Ft. Lauderdale (1969-1981).

BROOKBANK, JOHN WARREN, Ph.D. (California Institute of Technology)
Professor, Microbiology and Cell Science, (1955-1968).

BROOKEMAN, JAMES R., Ph.D. (University of St. Andrews, Scotland)
Associate Professor of Physics (1971-1977).

BROOKEMAN, VALERIE ANNE, Ph.D. (University of St. Andrews, Scotland)
Professor of Radiology (1971-1979).

BROOKS, JAMES KEITH, Ph.D. (Ohio State University)
Professor of Mathematics (1967-1972).

BROOKS, JOHN E., M.S. (Michigan State University)
Provisional Assistant Professor of Accounting (1981-1981).

BROOKS, ROBERT F., Ph.D. (University of Wisconsin)
Professor, Entomology and Nematology, AREC-Lake Alfred (1960-1971).

BROSCHAT, TIMOTHY, Ph.D (Ohio State University)
Assistant Professor, Ornamental Horticulture, AREC-Ft. Lauderdale (1979-1979).

BROWER, LINCOLN P., Ph.D. (Yale University)
Professor of Zoology (1980-1980).

BROWN, BOB B., Ph.D. (University of Wisconsin)
Professor of Foundations of Education (1965-1968).

BROWN, BRISBANE H., JR., Ph.D. (Oklahoma State University)
Professor and Director of Building Construction (1974-1980).

BROWN, DELINDUS RICHARD, Ph.D. (Indiana University)
Associate Professor of Speech (1974-1979).

BROWN, ELEANOR P., Ph.D. (Princeton University)
Assistant Professor of Economics (1980-1981).

BROWN, HERBERT, P.A.C. (University of Florida)
Physician's Assistant (1977-1977).

BROWN, JAMES, B.S. (Catawba)
Assistant Basketball Coach (1976-1976).

BROWN, JEAN WOODLEY, M.Ed. (University of Florida)
University School Assistant Professor, P.K. Yonge Laboratory School (1967-1978).

BROWN, LAURENCE C., A.I.A., B.Arch. (University of Florida)
University Physical Planning Consultant, Facilities Planning and Operations, J. Hillis Miller Health Center (1977-1977).

BROWN, MURRAY P., D.V.M., MSC. (University of Saskatchewan)
Associate Professor and Acting Chairman, Department of Surgical Science, College of Veterinary Medicine (1980-1980).

BROWN, RANDALL BARBER, Ph.D. (Oregon State University)
Assistant Professor, Soil Science (1980-1980).

BROWN, ROSS D., Ph.D. (University of Wisconsin)
Associate Professor, Food Science and Human Nutrition (1980-1980).

BROWN, WILLIAM SAMUEL, Ph.D. (State University of New York)
Associate Professor of Speech (1970-1976).

BROWNIE, CAVELL, Ph.D. (Cornell University)
Assistant Professor of Statistics (1981-1981).

BROWNSMITH, JOSEPH D., Ph.D (Ohio State University)
Assistant Professor of Computer and Information Sciences, College of Engineering (1978-1978).

BROWNELL, WILLIAM E., Ph.D (University of Chicago)
Assistant Professor of Neuroscience (1974-1974).

BROYLES, ARTHUR AUGUSTUS, Ph.D. (Yale University)
Professor of Physics and Physical Sciences (1949-1961).

BRUCE, LINDA L., M.A. (University of Florida)
Student Affairs Coordinator (1981-1981).

BRUGGER, DAVID J., M.S. (Brooklyn College)
Associate in Broadcasting and General Manager, WUFT-TV (1977-1977).

BRUNSON, JIMMIE MELVIN, B.S.B.A.
Associate Director of the Engineering and Industrial Experiment Station (1970-1978).

BRYAN, HERBERT HARRIS, Ph.D. (Cornell University)
Professor, Vegetable Crops, AREC-Homestead (1964-1978).

BRYAN, ROBERT ARMISTEAD, Ph.D. (University of Kentucky)
*Vice President for Academic Affairs and Professor of English (1957-1975).**

BUCHANAN, DAVID WESLEY, Ph.D (Rutgers University)
Professor and Assistant Chairman, Fruit Crops (1967-1978).

BUCHLER, J. ROBERT, Ph.D. (University of California at San Diego)
Professor of Physics and Astronomy (1974-1980).

BUCK, DOUGLAS LLOYD, M.Ag. (University of Florida)
Director, Health Center Learning Resources and Communications. J. Hillis Miller Health Center (1965-1979).

BUERGELT, CLAUS D., D.V.M. (Hannover Veterinary College), Ph.D. (Cornell University)
Associate Professor, Division of Comparative Pathology, College of Veterinary Medicine (1978-1978).

BUFFINGTON, DENNIS ELVIN, Ph.D. (University of Minnesota)
Associate Professor, Agricultural Engineering (1971-1976).

BUGAR, MICHAEL E., B.S. (Florida State University)
Assistant Football Coach (1980-1980).

BUHI, WILLIAM C., Ph.D. (University of Florida)
Instructor of Obstetrics and Gynecology (1973-1981).

BUHR, KENNETH L., Ph.D. (Iowa State University)
Assistant Professor, Agronomy (1980-1980).

BUICKEL, SHERRY, M.PE. (University of Idaho)
Women's Head Trainer (1978-1978).

BULLOCK, ROBERT CROSSLY, Ph.D. (University of Connecticut)
Associate Professor, Entomology and Nematology, ARC-Ft. Pierce (1961-1961).

BULLOCK, THOMAS EDWARD, JR., Ph.D. (Stanford University)
Professor of Electrical Engineering (1966-1974).

BUNNELL, WALTER G., M.D. (University of Florida)
Assistant Professor of Pediatrics (1981-1981).

BURCH, DEREK G., Ph.D. (University of Florida)
Assistant Professor, Ornamental Horticulture, AREC-Ft. Lauderdale (1979-1979).

BURCHARDT, HANS, Ph.D. (University of Florida)
Associate Professor of Orthopaedic Surgery (1976-1981).

BUREN, WILLIAM F., Ph.D. (Cornell University)
Professor, Entomology and Nematology (1973-1973).

BURGESS, JAMES A., B.E.E. (University of Florida)
Associate in Engineering Computer and Information Sciences (1980-1980).

BURK, DORTHEA E., Ph.D. (Brown University)
Assistant Professor of Electrical Engineering (1980-1980)

BURK, WILLIAM L., M.S. (University of Missouri)
Assistant Professor, Extension Home Economics (1976-1976).

BURKE, MICHAEL JOHN, Ph.D. (Iowa State University)
Professor and Chairman, Fruit Crops (1979-1979).

BURKETT, BARBARA A., LL.M. (Harvard University)
Associate Professor (1977-1980).

BURNAP, CHARLES ALAN, Ph.D. (Harvard University)
Assistant Professor of Mathematics (1976-1976).

BURNS, ALLAN F., Ph.D. (University of Washington)
Associate Professor of Anthropology (1976-1981).

BURNS, AUGUSTUS MERRIMON III, Ph.D. (University of North Carolina)
Associate Professor of History and Director of the Applied History Program (1967-1979).

BURNS, JAMES F., Ph.D. (Massachusetts Institute of Technology)
Professor of Industrial and Systems Engineering (1966-1975).

BURRIDGE, MICHAEL I., B.V.M. & S. (Edinburg University), Ph.D (University of California at Davis)
Associate Professor, Department of Preventive Medicine, College of Veterinary Medicine (1976-1976).

BURROWS, COLIN F., B.V.M. (University of London)
Associate Professor, Department of Medical Science College of Veterinary Medicine (1980-1980)

BURT, EVERT OAKLEY, Ph.D. (Ohio State University)
Professor, Ornamental Horticulture, AREC-Ft. Lauderdale (1962-1969).

BUSBY, JOE NEIL, Ph.D. (University of Florida)
Professor, International Programs (Cameroon) IFAS, (1975-1981).

BUSBY, WALTER A., Ed.D. (Michigan State University)
Associate Professor of Education (1968-1974).

BUSEY, PHILIP, Ph.D. (University of Arizona)
Assistant Professor, Ornamental Horticulture, AREC-Ft. Lauderdale (1976-1976).

BUSHNELL, DAVID, Ph.D. (Harvard University)
Professor of History (1963-1968).

BUSHNELL, PETER STERLING, M.L.S.
Associate Librarian, Catalog (1972-1977).

BUSS, DARYL D., D.V.M. (University of Minnesota), Ph.D. (University of Wisconsin)
Associate Professor and Department Chairman, Department of Metabolism, College of Veterinary Medicine, (1976-1979).

BUTLER, GEORGE BERGEN, Ph.D. (University of North Carolina)
Professor of Chemistry (1946-1957).

BUTLER, GLENN A., Ed.D. (Oklahoma State University)
Professor of Journalism and Communications and Director of Student Services (1966-1982).

BUTLER, JERRY F., Ph.D. (Cornell University)
Professor, Entomology and Nematology (1968-1979).

BUTLER, SHARON D., B.S.
Systems Coordinator, Office of Management and Budget, Vice President for Health Affairs, J. Hillis Miller Health Center (1977-1978).

BUTLER, SHERMAN LINVILLE, M.L.S.
Associate Librarian, Reference and Bibliography (1968-1974).

BUTT, ARNOLD FREDERICK, M. Arch. (Rice University)
Professor of Architecture and Chairman of the Department of Architecture (1952-1968).

BUTTON, ERVINE J., J.D. (Syracuse University)
Director, Business Services, Vice President for Health Affairs, J. Hillis Miller Health Center (1967-1978).

BUTTON, JAMES W., Ph.D. (University of Texas)
Associate Professor of Political Science, (1973-1979).

BUTTON, ROBERT A., M.Ltt. (University of Pittsburgh)
Director, University Personnel Relations (1963-1965).

BYRD, HAZEL PATRICIA, Ph.D. (University of Florida)
Lecturer and Assistant Director of the English Language Institute (1974-1979).

BYRON, KENNETH HUGH, Ph.D. (University of Florida)
Associate Professor of English (1961-1970).

BZOCH, KENNETH RUDOLPH, Ph.D. (Northwestern University)
Chairperson and Professor, Department of Communicative Disorders and Speech (1960-1965).

CADE, JAMES R., M.D. (University of Texas)
Professor of Medicine (1961-1978).

CAFFEE, H. HOLLIS, M.D. (University of Florida)
Associate Professor of Surgery and Chief of Plastic & Reconstructive Surgery, VAMC (1978-1981).

CAILLER, BERNADETTE, Ph.D. (Cornell University)
Associate Professor of French (1974-1979).

CAIN, MICHAEL FRANCIS, Ph.D. (Pennsylvania State University)
Assistant Professor, Animal Science (1981-1981).

CALDERWOOD, MARON B., V.M.D. (University of Pennsylvania). Ph.D. (University of Florida)
Assistant Professor, Division of Comparative Pathology, College of Veterinary Medicine, (1977-1977).

CALDWELL, MARY ELLEN, LL.M. (Yale University)
*Professor of Law (1974-1974).**

CALDWELL, ROBERT EDWARD, Ph.D. (Purdue University)
Professor, Soil Science (1941-1968).

CALDWELL, WALTER F., M.S. (Air Force Institute of Technology)
Major, U.S. Air Force, Assistant Professor of Aerospace Studies (1980-1980).

CALFEE, DENNIS A., L.L.M. (University of Florida)
Professor of Law (1975-1980).

CALLOWAY, PAULINE F., Ed.D. (University of North Carolina)
Associate Professor, Florida Cooperative Extension Service (1968-1980).

CALVERT, DAVID VICTOR, Ph.D. (Iowa State University)
Center Director and Professor, Soil Science, ARC-Ft. Pierce (1961-1979).

CAMBLIN, JOHN G., M.D. (Queens University of Belfast)
Assistant Professor of Orthopaedic Surgery VAMC (1978-1978).

CAMERON, DON F., Ph.D. (Medical University of South Carolina)
Assistant Professor of Anatomy (1976-1980).

CAMPBELL, CARL WALTER, Ph.D. (Purdue University)
Professor, Fruit Crops, AREC-Homestead, (1960-1973).

CAMPBELL, HUGH DANIEL, Ph.D. (Univ. of British Columbia)
*Associate Professor of Nuclear Engineering Sciences (1968-1973).**

CAMPBELL, KENNETH LEONARD, Ph.D. (Iowa State University)
Associate Professor, Agricultural Engineering (1972-1979).

CANFIELD, DANIEL E., JR., Ph.D. (Iowa State University)
Assistant Professor, Forest Resources and Conservation (1979-1979).

CANTLIFFE, DANIEL JAMES, Ph.D. (Purdue University)
Professor, Vegetable Crops (1974-1981).

CANTWELL, KATHLEEN A., M.D. (University of Florida)
University Physician (1979-1979).

CAPEHART, BARNEY L., Ph.D. (University of Oklahoma)
*Professor of Industrial and Systems Engineering (1968-1979).**

CAPPELLARI, FRANCESCO G., M. Arch. (University of California, Berkeley)
Assistant Professor Architecture (1979-1979).

CARANASOS, GEORGE J., M.D. (Johns Hopkins University)
Professor of Medicine and Community Health and Family Medicine and Chief of Medicine (1967-1977).

CARDEILHAC, PAUL T., D.V.M. (Texas A&M University), Ph.D. (University of Pennsylvania)
Professor, Department of Reproduction, College of Veterinary Medicine, IFAS (1968-1977).

CARLISLE, VICTOR WALTER, Ph.D. (University of Florida)
Professor, Soil Science (1947-1974).

CARLOS, JOHN JR., M.S. (Boston University)
Assistant Professor of Physical Therapy (1977-1977).

CARLSON, JOHN V., B.S. (Iowa State University)
Planned Consultant, Division of Planning and Analysis (1978-1980).

CARLSON, NORMAN GILBERT, B.S. (Florida)
Assistant Athletic Director for Sports Information (1963-1963).

CARNELL, CORBIN SCOTT, Ph.D. (University of Florida)
Professor of English (1958-1976).

CARNES, NANETTE MAPE, (University of Florida)
University School Instructor, P. K. Yonge (1981-1981).

CARPENTER, JAMES WOODFORD, Ph.D. (University of Florida)
Professor, Animal Science (1953-1971).

CARPENTER, RONALD H., Ph.D. (University of Wisconsin)
Associate Professor of English (1971-1971).

CARPENTER, WILLIAM JOHN, JR., Ph.D. (Michigan State University)
Professor and Chairman, Ornamental Horticulture (1975-1975).

CARR, ARCHIE FAIRLY, Ph.D. (University of Florida)
*Graduate Research Professor of Zoology and Curator of Zoological Sciences, Florida State Museum (1937-1959).**

CARR, GLENNA DODSON, Ed.D. (University of Florida)
Professor of Education (1952-1977).

CARR, THOMAS DEADERICK, Ph.D. (University of Florida)
Professor of Astronomy and Physics (1958-1966).

CARR, WILLIAM C., M.Ed. (University of Florida)
Athletic Director (1972-1979).

CARRERA, FRANK, III, M.D. (Emory University)
Associate Professor of Psychiatry and Chief, Division of Child and Adolescent Psychiatry and Associate Professor of Pediatrics (1965-1980).

CARRIKER, ROY R., Ph.D. (Virginia Polytechnic Institute and State University)
Assistant Professor, Food & Resource Economics (1976-1976).

CARROLL, EDWARD ELMER JR., Ph.D. (University of Pennsylvania)
*Professor of Nuclear Engineering Sciences (1966-1972).**

CARROLL, ROBERT G., M.D. (University of Pittsburgh)
Associate Professor of Radiology (1980-1980).

CARSON, LESTER M., B.A. (University of North Carolina)
Associate Professor of Journalism and Communications (1979-1979).

CARSON, RONALD A., Ph.D. (University of Glasgow, Scotland)
Associate Professor of Community Health and Family Medicine and Religion (1975-1981).

CARTER, KEITH ALAN, Ph.D (Iowa State University)
Assistant Professor, 4-H and other Extension Youth Programs (1979-1979).

CARTER, RANDOLPH L., Ph.D. (Iowa State University)
Assistant Professor of Statistics (1976-1976).

CARTER, LAWRENCE, Ph.D. (Florida State University)
Associate Professor and Assistant Dean, Florida Cooperative Extension Service (1974-1981).

CASAGRANDE, JEAN, Ph.D. (Indiana University)
Associate Professor of French and Linguistics (1968-1973).

CASSIN, BARBARA C., M.S. (University of Florida)
Assistant Ophthalmologist (1969-1974).

CASSIN, SIDNEY, Ph.D. (University of Texas)
Professor of Physiology (1957-1969).

CASSISI, NICHOLAS J., M.D. (University of Miami) D.D.S. (Western Reserve)
Professor of Surgery and Chief of Otolaryngology, VAMC (1973-1977).

CASTEEL, JAMES DOYLE, Ph.D. (George Peabody College)
Professor of Education (1969-1975).

CASTLE, WILLIAM S., Ph.D (University of Florida)
Associate Professor, Fruit Crops, AREC-Lake Alfred (1974-1980).

CATHEY, GERALD M., D.D.S. (University of North Carolina)
Professor of Endodontics (1978-1978).

CATHEY, JOHN R., M.S. (Virginia Tech)
Director of Major Gifts (1980-1980)

CATO, JAMES C., Ph.D (University of Florida)
Associate Professor, Food and Resource Economics (1969-1977).

CATON, DONALD, M.D. (Columbia University)
Professor of Obstetrics and Gynecology and Anesthesiology (1969-1981).

CAVIEDES, CESAR N., D.SC. (University of Freiburg, Federal Republic of Germany)
Professor of Geography (1980-1980).

CAWTHON, GEORGE E., B.S. (University of Florida)
Assistant Director, Program Development, IFAS (1978-1978).

CECH, JOHN O., Ph.D. (University of Connecticut)
Assistant Professor of English (1977-1977).

CENZER, DOUGLAS A., Ph.D. (University of Michigan)
Associate Professor of Mathematics (1972-1977).

CENZER, PAMELA S., M.L.S. (University of Michigan)
Assistant Librarian and Assistant Head, Acquisitions Department (1973-1979).

CERDA, JAMES J., M.D. (University of Maryland)
Professor and Associate Director, CRC, Associate Chairman, Professor of Medicine (1972-1976).

CHAFIN, MOSES BENTON, M.P.H. (University of Florida)
Head Tennis Coach and Associate Professor of Physical Education (1967-1980).

CHAKRAVARIT, DIPANKAR, Ph.D. (Carnegie-Mellon University)
Assistant Professor of Marketing (1978-1978).

CHALLONER, DAVID R., M.D.
Vice President for Health Affairs (1982-1982).

CHALMERS, DAVID MARK, Ph.D. (University of Rochester)
Professor of History (1955-1967).

CHAMBERS, ANTHONY, M.S.Ed. (Illinois State University)
Assistant Dean for Student Services (1981-1981).

CHAMBLISS, CARROL GENE, Ph.D. (University of Illinois)
Associate Professor, Agronomy, AREC-Bradenton (1976-1976).

CHAMPION, JOHN MILLS, Ph.D. (Purdue University)
Professor in Health Services Administration and Management (1964-1979).

CHANCE, JEAN C., M.A. (University of Florida)
Associate Professor of Journalism and Communications (1969-1977).

CHANG, RICHARD TAIWON, Ph.D. (University of Michigan)
Professor of History (1966-1975).

CHAPIN, JAMES C., M.D. (University of Michigan)
Assistant Professor of Anesthesiology (1978-1978).

CHARUBATTAN, RAGHAVEN, Ph.D. (University of Madras)
Associate Professor, Plant Pathology (1970-1978).

CHAU, KHE VAN, Ph.D. (University of California)
Assistant Professor of Agricultural Engineering, IFAS (1975-1975).

CHAU, VINCENT, Ph.D. (University of Virginia)
Assistant Professor of Biochemistry and Moledular Biology (1981-1981).

CHEEK, JIMMY GEARY, Ph.D. (Texas A&M University)
Associate Professor, Agricultural and Extension Education (1975-1980)

CHELLEMI, S. JOHN, D.D.S. (University of Pennsylvania)
Professor of Oral Medicine (1970-1975).

CHEN, CHAO L., D.V.M. (National Taiwan University) Ph.D. (Michigan State University)
Professor, Department of Reproduction, College of Veterinary Medicine (1976-1981).

CHEN, KWAN-YU, Ph.D. (University of Pennsylvania)
Professor of Astronomy (1963-1977).

CHEN, SU-SHING, Ph.D. (University of Maryland)
Associate Professor of Mathematics (1970-1975).

CHEN, WAYNE H., Ph.D. (University of Washington)
Dean of the College of Engineering, Director of the Engineering and Industrial Experiment Station, Professor of Electrical Engineering (1952-1973).

CHENETTE, EUGENE R., Ph.D. (University of Minnesota)
Assistant Dean, College of Engineering; Professor of Electrical Engineering (1966-1978)

CHENG, LEONARD KWOK-HON, M.A. (University of California, Berkeley)
Provisional Assistant Professor of Economics (1980-1980).

CHERRINGTON, BLAKE EDWARD, Ph.D. (University of Illinois)
Professor of Electrical Engineering and Chairman of the Department (1979-1979).

CHESROWN, SARAH E., M.D., (Medical College of Virginia)
Assistant Professor of Pediatrics (1979-1979).

CHEW, VICTOR, B.Sc. (H.) (University of Western Australia)
Associate Professor, Statistics, USDA, IFAS (1955-1973).

CHIANG, RAYMOND C., Ph.D. (Baruch College)
Assistant Professor of Finance (1978-1978).

CHILDERS, CARL CALVIN, Ph.D. (University of Missouri)
Assistant Professor, Entomology and Nematology, AREC-Lake Alfred (1977-1977).

CHILDERS, DONALD G., Ph.D. (University of Southern California)
Professor and Assistant Chairman of Electrical Engineering (1965-1968).

CHILDERS, RICHARD D., M.D. (University of Rochester)
Assistant Professor of Medicine (1974-1974).

CHILDERS, STEVEN R., Ph.D. (University of Wisconsin)
Assistant Professor of Pharmacology and Therapeutics (1979-1979).

CHILDERS, WILLIAM COLE, Ph.D. (University of Florida)
*Professor of English (1959-1969).**

CHIU, TSAO-YI, Ph.D. (University of Florida)
Professor of Coastal and Oceanographic Engineering (1973-1979).

CHOATE, RUSH EDGAR, M.S.A. (University of Florida)
Professor and Assistant Chairman, Agricultural Engineering (1947-1959).

CHOW, YVAN-CHIEH, Ph.D. (University of Massachusetts)
Associate Professor of Computer and Information Sciences College of Engineering (1981-1981).

CHRISMAN, CHERYL L., D.V.M. (Michigan State), M.S. (Ohio State)
Associate Professor, Department of Medical Sciences, College of Veterinary Medicine (1977-1977).

CHRISTENSEN, BENT AKSEL, Ph.D. (University of Minnesota)
Professor of Civil Engineering (1963-1965).

CHRISTIAN, MILTON BURKE, M.Ed. (University of Florida)
Assistant Professor of Behavioral Studies (1964-1970).

CHRISTIANSEN, KENNETH A., Ed.D. (University of Missouri)
Professor of Journalism and Communications, (1959-1978).

CHRISTIE, LEONARD G., M.D. (Temple University)
Associate Professor of Medicine (1976-1979).

CHRISTMAS, ROBERT BRUCE, Ph.D. (University of Florida)
Supervisor, Florida Poultry Evaluation Center, Chipley, and Associate Professor, Poultry Science (1960-1977).

CHU, CHAUNCEY CHENG-HSI, Ph.D. (University of Texas)
Associate Professor of Chinese and Linguistics, Director of Program in Linguistics (1969-1979).

CHUN, PAUL W., Ph.D. (University of Missouri)
Professor of Biochemistry and Molecular Biology (1967-1979).

CHURCHILL, JAMES T., M.A. (Nova University)
University School Instructor, P. K. Yonge Laboratory School (1977-1977).

CIARLANTE, VINCENT, B.S. (North Carolina State University)
Lieutenant, U.S. Navy, Assistant Professor of Naval Science (1980-1980).

CILLEY, MARY L., M.A. (University of Florida)
Associate Professor, IFAS Editorial (1961-1978).

CLARK, ANTHONY JAMES, Ph.D. (University of Denver)
Associate Professor of Speech (1969-1974).

CLARK, EDWARD BOWIE, JR., Ed.S. (University of Florida)
Assistant Professor of Education (1966-1969).

CLARK, HAROLD BROWN, Ph.D. (University of Kentucky)
*Professor, Food and Resource Economics (1958-1958).**

CLARK, IRA, Ph.D. (Northwestern University)
Associate Professor of English (1972-1972).

CLARK, NEREYDA P., D.M.D. (University of Florida)
Instructor of Operative Dentistry (1981-1981).

CLARK, PHILLIP A., Ed.D. (Western Michigan University)
Professor of Education (1972-1980).

CLARK, SHIRLEY ANN, M.A. (Ohio State University)
Assistant in Administration (1979-1979).

CLARK, T. DWYGHT, D.D.S. (Emory University)
Assistant Professor of Operative Dentistry (1976-1976).

CLARK, WILLIAM B., IV, D.D.S., D.M.Sc. (Harvard University)
Assistant Professor of Basic Dental Sciences (1977-1977).

CLARKE, MARION L. Ph.D. (Texas A&M University)
Associate Professor, Forest Resources and Conservation; Assistant Dean for Marine Programs (1977-1977).

CLARKSON, MARK HALL, Ph.D. (University of Texas)
*Professor of Engineering Sciences (1961-1961).**

CLEMMONS, ROGER M., D.V.M. & Ph.D. (Washington State)
Assistant Professor, Department of Medical Sciences College of Veterinary Medicine (1979-1979).

CLINEFELTER, KATHY, M.S. (University of Florida)
Assistant Director for Nursing Systems, Shands Teaching Hospital and Clinics, Inc. (1975-1981).

CLORE, FORREST C., M.D. (University of Michigan)
Associate Professor and Chief of Diagnostic Radiology, VAMC (1967-1976).

CLOSSON, DAVID L., Ph.D. (University of Pennsylvania)
Assistant Professor of English (1977-1977).

CLOUSER, ROONEY L., Ph.D. (Purdue University)
Assistant Professor, Food and Resource Economics (1981-1981).

CLUBOK, ALFRED B., Ph.D. (University of Michigan)
Professor and Chairperson of Political Science (1958-1977).

COFFEY, MAX TERRY, Ph.D. (University of Georgia)
Assistant Professor, Animal Science (1981-1981).

COGGAN, JANET M., M.Ed. (University of Florida)
Associate in Community Health and Family Medicine (1974-1981).

COHEN, HOWARD LIONEL, Ph.D. (University of Indiana)
Associate Professor of Astronomy (1968-1973).

COHEN, JERRY A., M.D. (University of Miami)
Assistant Professor of Anesthesiology (1977-1977).

COHEN, MORTIMER, Ph.D. (University of Minnesota)
Professor, Plant Pathology, ARC-Ft. Pierce (1956-1968).

COHEN, ROBERT J., Ph.D. (Yale University)
Associate Professor of Biochemistry and Molecular Biology (1971-1976).

COHEN, RONALD, Ph.D. (University of Wisconsin)
Professor of Anthropology (1981-1981).

COHN, STUART R., LL.B. (Yale)
Professor of Law (1977-1980).

COLAHAN, PATRICK T., D.V.M. (University of California at Davis)
Assistant Professor, Department of Surgical Sciences, College of Veterinary Medicine (1979-1979).

COLAIZZI, FRANK A., D.M.D. (University of Pittsburgh)
Associate Professor and Chairman of Removable Prosthodontics (1977-1979).

COLBURN, DAVID RICHARD, Ph.D. (University of North Carolina)
Associate Professor and Chairman of History (1972-1980).

COLE, C. WHARTON, M.B.A. (University of Texas at Austin)
Major, U.S. Air Force, Assistant Professor of Aerospace Studies (1979-1979).

COLE, JACQUELINE M., Ed.D. (University of Florida)
Assistant Research Scientist, Agricultural and Extension Education (1980-1981).

COLE, MAURICE F., Ph.D. (North Carolina State University)
Associate Professor (District Extension Director), Florida Cooperative Extension Service (1977-1977).

COLE, THOMAS WINSTON, Ed.D. (University of Texas)
Dean of Academic Affairs for Institutional Services and Professor of Educational Administration (1971-1972).

COLLETTE, WILLIAM A., Ph.D. (Iowa State University)
Associate Professor, Food and Resource Economics (1975-1979).

COLGATE, SAMUEL ORAN, Ph.D. (Massachusetts Institute of Technology)
Associate Professor of Chemistry (1959-1966).

COLLANTE, ERLINDA Y., M.D. (Far Eastern University)
University Physician (1975-1975).

COLLETT, WILLIAM K., D.D.S., Sc.D. (University of Pittsburgh)
Professor of Oral Medicine (1968-1974).

COLLIER, COURTLAND A., M.E. (University of Florida)
Associate Professor of Civil Engineering (1961-1976).

COLLIER, ROBERT J., Ph.D. (University of Illinois)
Associate Professor, Dairy Science (1976-1981).

COLLINS, DOROTHY E., A.C.S.W. (University of Chicago)
Associate Professor of Social Work in Psychiatry (1966-1977).

COLLINS, J. FRANK, D.D.S., M.S.D. (Emory University)
Assistant Professor of Periodontics and Director of General Practice Residency Program (1979-1979).

COLLINS, MARY ELIZABETH, Ph.D. (Iowa State University)
Assistant Professor, Soil Science (1981-1981).

COLLINS, ROSEMARY V., Ed.S. (University of Florida)
University School Instructor, P. K. Yonge Laboratory School (1978-1980).

COLLINS, WILLIAM A., Ph.D. (University of Washington) C.P.A.
Associate Professor of Accounting, (1973-1980). Associate Professor of Accounting. (1973-1980).

COLLIS, PHILIP S., M.Sc. (University of Connecticut)
Biological Safety Officer; Head, Biological Safety Unit (1980-1980).

COLLOPY, MICHAEL W., Ph.D. (University of Michigan)
Assistant Professor, Forest Resources and Conservation (1980-1980).

COMBS, GEORGE ERNEST, Ph.D. (Iowa State University)
*Professor, Animal Science (1951-1967).**

COMER, DOROTHY A., Ph.D. (University of Nebraska)
Assistant Professor, Food and Resource Economics (1981-1981).

COMERFORD, NICHOLAS B., Ph.D. (State University of New York)
Assistant Professor, Soil Science (1980-1980).

CONGER, JOSEPH H., III, M.F.A. (University of North Carolina at Greensboro)
Assistant Professor of Theatre (1981-1981).

CONNELL, RICHARD GRANT, Ph.D. (University of Florida)
Assistant Professor in Materials Science and Engineering (1973-1975).

CONNELL, RUTH, M.Arch. (University of Pennsylvania)
Assistant Professor of Architecture (1980-1980).

CONNER, H. HENRY, M.A. (University of Florida)
Assistant Professor of Journalism and Communications (1966-1973).

CONNER, J. WAYNE, Ph.D. (Princeton University)
Distinguished Service Professor of Romance Languages (1962-1977).

CONNER, TOTSYE JOHNSON, M.Ed. (University of Georgia)
University School Instructor, P. K. Yonge Laboratory School (1968-1972).

CONOVER, CHARLES ALBERT, Ph.D. (University of Georgia)
Center Director and Professor, Ornamental Horticulture ARC-Apopka (1963-1975).

CONOVER, ROBERT ARMINE, Ph.D. (University of Illinois)
Professor, Plant Pathology, AREC- Homestead (1947-1975).

CONRAD, JOSEPH HENRY, Ph.D. (Purdue University)
Professor, Animal Science (1971-1971).

CONRADT, DAVID PAUL, Ph.D. (Brown University)
Professor of Political Science (1968-1979).

CONROY, STEPHEN S., Ph.D. (University of Iowa)
Chairman of American Studies and Associate Professor of History (1960-1968).

CONTI, ANTHONY)., D.M.D. (New Jersey College of Dentistry), M.P.H. (University of North Carolina)
Associate Professor of Community Dentistry (1971-1976).

CONTI, C. RICHARD, M.D. (Johns Hopkins University)
Professor of Medicine and Chief of Cardiology (1974-1974).

COOK, ALLYN AUSTIN, Ph.D. (University of Wisconsin)
Professor, Plant Pathology (1954-1967).

COOK, GARY D., M.Ed. (University of West Florida)
Assistant Professor of Building Construction (1980-1980).

COONS, WILLIAM WARWICK, M.B.A. (George Washington University)
Associate Engineer of Civil Engineering (1976-1976).

COOPER, THOMAS E., M.A. (Princeton University)
Provisional Assistant Professor of Economics (1981-1981).

COOPER, WADE H., Ed.D. (University of Virginia)
Colonel, U.S. Marine Corps, Professor of Naval Science (1979-1979).

COPE, GENE E., D.V.M., (Texas A&M University)
Associate Professor, Preventive Medicine, College of Veterinary Medicine, IFAS (1979-1979).

COPELIN, JOHNNY LANDON, Ph.D. (Texas Tech University)
Assistant Professor, Animal Science (1976-1976).

COPPO, MARIAN T., M.S.N. (University of Florida)
Instructor, College of Nursing (1980-1980).

CORAM, WILMER THOMAS, JR., M.A.E. (University of Florida)
Continuing Education Coordinator, Assistant in Law, (1957-1969).

CORBETT, MICHAEL D., Ph D. (University of Kansas)
Professor, Food Science and Human Nutrition (1981-1981).

CORBETT, WELLESLEY T. JR., Ed.D. (University of Florida)
University School Assistant Professor, P. K. Yonge Laboratory School (1973-1976).

CORCORAN, MAUREEN C., M.S.L.S. (University of Illinois)
Stack Librarian (1980-1980).

CORGEL, JOHN B., Ph.D. (University of Georgia)
Assistant Professor of Real Estate (1980-1980).

CORMAN, LOURDES C., M.D., (Women's Medical College of Pennsylvania)
Assistant Professor of Medicine (1979-1979).

CORNELIUS, WILLIAM G., Ph.D. (University of Minnesota)
Assistant Professor of Management and Director of M.B.A. Program (1972-1972).

CORNELL, JOHN ANDREW, Ph.D. (Virginia Polytechnic Institute)
Professor, Statistics, IFAS (1968-1978).

CORNWELL, GARY T., M.L.S. (Florida State University)
Assistant Librarian, Documents (1976-1980).

CORNWELL, ROBENA, A.M.L.S. (University of Michigan)
Assistant Librarian, Architecture and Fine Arts Library (1978-1978).

COSCIA, FRANK A., D.D.S. (Georgetown University)
Assistant Professor of Oral Medicine (1977-1977).

COUCH, LEON WORTHINGTON, II, Ph.D. (University of Florida)
Associate Professor of Electrical Engineering (1967-1974).

COUCH, MARGARET W., Ph.D. (University of Florida)
Assistant Research Professor, Radiation Chemistry VAMC (1969-1971).

COUNTS, FRANK S., M.S. (Syracuse University)
Assistant Professor of Journalism and Communications, Producer-Director, Television Station WUFT (1972-1975).

COURAGE, KENNETH GRANT, MSCE (Texas A&M University)
Associate Professor of Civil Engineering (1971-1976).

COURAGE, MYRNA, M.N. (University of Florida)
Assistant Professor, College of Nursing (1976-1978).

COURTS, FRANK J. D.D.S., Ph.D. (University of North Carolina)
Assistant Professor of Pediatric Dentistry (1979-1979).

COVEY, CHARLES D., Ph.D. (Louisiana State University)
Professor, Food and Resource Economics (1963-1973).

COX, MERLIN GWINN, Ph.D. (University of Florida)
Associate Professor of History (1955-1966).

COX, RODNEY E., Ph.D. (Iowa State University of Science and Technology)
Professor and Graduate Coordinator of Building Construction (1979-1979).

COX, SHERYL P., M.A. (University of West Florida)
*University School Instructor, P. K. Yonge Laboratory School (1979-1979).**

CRAIG, STEPHEN C., Ph.D. (Northwestern University)
Assistant Professor of Political Science (1979-1979).

CRAIN, EDWARD E., M.A. (University of Miami)
Professor of Architecture (1973-1978).

CRALL, JAMES MONROE, Ph.D. (University of Missouri)
Professor, Plant Pathology, ARC-Leesburg, (1952-1954).

CRAMER, JOSEPH B., J.D. (University of Georgia)
Associate University Attorney (1978-1978).

CRANDALL, CATHERINE A., Ph.D. (Purdue University)
Associate Professor of Pathology (1960-1977).

CRANDALL, LEE A., Ph.D. (Purdue University)
Associate Professor of Community Health and Family Medicine (1976-1977).

CRANDALL, PHILLIP G., Ph.D. (Purdue University)
Associate Professor, Food Science and Human Nutrition AREC-Lake Alfred (1975-1980).

CRANDALL, RICHARD B., Ph.D. (Purdue University)
Professor of Immunology and Medical Microbiology (1960-1974).

CRAVEN, ROY C., JR., M F.A. (University of Florida)
*Director, University Gallery; Professor of Art (1954-1967).**

CRAVENS, SALLY ANN, M.A.
Librarian, Documents (1967-1976).

CREEL, AUSTIN BOWMAN, Ph.D. (Yale University)
*Professor of Religion and Chairperson of Department (1957-1977).**

CREMEDAS, MICHAEL J., M.A. (Norfolk State University)
Assistant in Broadcasting and News Director, WUFT-TV (1981-1981).

CRENSHAW, TENA L., M.L.S. (University of Oklahoma)
Librarian and Department Head, Education Library (1980-1980).

CREVASSE, LAMAR E. JR., M.D. (Duke University)
Professor of Medicine and Assistant Dean for Continuing Medical Education (1959-1969).

CREWS, FULTON T., Ph.D. (University of Michigan)
Assistant Professor of Pharmacology and Therapeutics (1980-1980).

CREWS, HARRY EUGENE, M.E.D. (University of Florida)
Professor of English (1968-1976).

CREWS, RUTHELLEN, Ed.D. (Columbia University)
Professor of Education (1966-1972).

CRIBBETT, ALBERT F., M.S.A. (University of Florida)
Executive Assistant for Agricultural Affairs and Assistant Professor, Food and Resource Economics, IFAS (1954-1967).

CRIPE, WYLAND, S., D.V.M. (University of California at Davis)
Associate Professor, Department of Preventive Medicine and Assistant Dean for Public Services, College of Veterinary Medicine (1972-1974).

CRISMAN, THOMAS L., Ph.D. (Indiana University)
Assistant Professor of Environmental Engineering Sciences (1977-1977).

CROCKER, LINDA M., Ph.D. (Michigan State University)
Associate Professor of Education (1974-1977).

CROCKER, TIMOTHY EUGENE, Ph.D. (Michigan State University)
Professor, Fruit Crops (1970-1980).

CROCKETT, JOE RICHARD, Ph.D. (University of Florida)
Associate Professor, Animal Science, AREC-Belle Glade (1960-1969).

CROKE, WARREN B., B.S.J. (University of Florida)
Coordinator of Educational Media, Learning Resources and Communications, J. Hillis Miller Health Center (1979-1981).

CROMROY, HARVEY L., Ph.D. (North Carolina State University)
Professor, Entomology and Nematology (1974-1975).

CROMWELL, RICHARD PARK, M.E. (University of Florida)
Associate Professor, Agricultural Engineering (1967-1977)

CRONE, ERNEST G., M.Ed. (University of North Carolina)
Associate Professor of Health Education and Safety (1957-1980).

CROOK, FRANCES M., B.S. B.A. (University of Florida)
Associate Director of Personnel (1960-1976).

CROSLAND, ROBERT ELDER, M.A. Arch. (University of Florida)
Professor of Building Construction (1971-1976).

CROSTON, ROBERT BRUCE, M.S. (University of Massachusetts)
Assistant Professor of Interior Design (1981-1981).

CROWDER, L. VAN, M.S. (Cornell University)
Assistant Professor, IFAS Editorial (1978-1981).

CROWLEY, PATRICIA MAE, M.A. (University of Minnesota)
Associate Librarian, J. Hillis Miller Health Center Library (1974-1979).

CRUM, ROY LEE, Ph.D. (University of Texas at Austin)
Associate Professor of Finance (1974-1980).

CRUMP, MARTHA L., Ph.D. (University of Kansas)
Associate Professor of Zoology (1976-1980).

CRUMMER, ARTHUR A., Ph.D. (University of Florida)
Associate in Mathematics (1971-1979).

CRUZ, AMELIA C., M.D. (Far Eastern University)
Associate Professor of Obstetrics and Gynecology and Director of Inservice Training (1973-1979).

CSIZINSZKY, ALEXANDER A., Ph.D. (Washington State University)
Assistant Professor, Vegetable Crops, AREC-Bradenton (1976-1976).

CULLEN, STANLEY I., M.D. (University of Miami)
Associate Professor of Medicine (1969-1969).

CUNNINGHAM, HUGH W., M.A. (University of Missouri)
Director of University Information and Professor of Journalism (1955-1973).

CUNNINGHAM, WALTER R., Ph.D. (University of Southern California)
Associate Professor of Psychology, Gerontology, and Clinical Psychology (1974-1979).

CURRAN, ROBERT LYNN, Ed.D. (Harvard University)
Professor of Education (1952-1969).

CURREY, WAYNE LEE, Ph.D. (University of Connecticut)
Associate Professor, Agronomy (1970-1975).

CURRIER, BARRY A., J.D. (University of Southern California)
Professor of Law (1977-1980).

CURRY, ROBERT WHIT, M.D. (Duke University)
Assistant Professor of Community Health and Family Medicine (1977-1977).

CURRY, STEPHEN H., Ph.D. (University of London)
Professor of Pharmacy (1980-1980).

CURTIS, CLAYTON C., Ph.D. (Indiana University)
Associate Professor of Real Estate and Urban Analysis (1958-1961).

CURTIS, ROBERT L., M.P.A.
Assistant to the Dean, Pharmacy (1975-1980).

CYRLIN, MARSHALL N., M.D. (Washington University)
Assistant Professor of Ophthalmology (1981-1981).

D'AMICO, ROBERT, Ph.D. (SUNY at Buffalo)
Associate Professor of Philosophy (1974-1979).

DALLMAN, JOHN J., M.D., (Medical College of Georgia)
Assistant Professor of Community Health and Family Medicine (1979-1979).

DALTON, GEORGE RONALD, Ph.D. (University of Michigan)
*Professor of Nuclear Engineering Sciences (1960-1968).**

DALY, JAMES W., M.D. (Loyola University)
Professor of Obstetrics and Gynecology and Head of Oncology (1968-1977).

DAMICO, ALFONSO J., Ph.D. (Ohio State University)
Associate Professor of Political Science (1969-1975).

DAMICO, SANDRA, Ph.D. (University of Florida)
Associate Professor of Social Foundations of Education (1969-1977).

DAMRON, BOBBY LEON, Ph.D. (University of Florida)
Associate Professor, Poultry Science (1966-1974).

DANEK, GALE D., M.S.N. (Wayne State University)
Instructor, College of Nursing (1981-1981).

DANIELS, A.W., M.Ed. (University of Florida)
Lecturer and Assoc. Director, Office of Instructional Resources (1971-1971).

DANKEL, DOUGLAS D. II, Ph.D. (University of Illinois)
Assistant Professor of Computer and Information Sciences, College of Engineering (1978-1978).

DANTZMAN, CHARLES LEONARD, Ph.D. (University of Florida)
Associate Professor, Soil Science, ARC-ONA (1959-1979).

DARBY, JOHN F., Ph.D. (University of Wisconsin)
Center Director and Professor, Plant Pathology, AREC-Sanford (1951-1966).

DASTA, ANTHONY JOSEPH, M.S. (University of Illinois)
Associate Professor of Architecture (1966-1975).

DAVENPORT, PAUL W., Ph.D. (University of Kentucky)
Assistant Professor, Department of Metabolism, College of Veterinary Medicine (1981-1981)

DAVENPORT, THOMAS LEE, Ph.D. (Texas A&M University)
Assistant Professor, Fruit Crops, AREC-Homestead (1977-1977).

DAVIDSON, JAMES MELVIN, Ph.D. (University of California, Davis)
Assistant Dean for Research and Professor, Soil Science (1974-1979).

DAVIDSON, JOHN LEITCH, Ph.D. (Purdue University)
Associate Professor of Civil Engineering (1972-1977).

DAVIES, FREDERICK STANLEY, Ph.D. (Cornell University)
Assistant Professor, Fruit Crops (1978-1978).

DAVIS, BILLY HAMPTON, Ed.D. (University of Florida)
Assistant Professor of Behavioral Studies, Adviser (1970-1971).

DAVIS, CARL C., JR., M.D. (University of Mississippi)
Instructor in Surgery (1981-1981).

DAVIS, CARLTON GEORGE, Ph.D. (Michigan State University)
Professor, Food and Resource Economics (1970-1980).

DAVIS, FRANCIS C. JR., Ph.D. (University of Tennessee)
Associate Professor, Microbiology and Cell Science. (1971-1971).

DAVIS, HORANCE GIBBS, JR., M.A. (University of Florida)
Distinguished Service Professor of Journalism and Communications (1954-1977).

DAVIS, HUGH CHESTER, JR., Ph.D. (University of Tennessee)
Professor of Clinical Psychology (1960-1970).

DAVIS, JEFFREY, LL.M. (University of Michigan)
Professor of Law (1981-1981).

DAVIS, JOHN J., PA-C. (Duke University Medical Center)
Physician's Assistant in Community Health and Family Medicine (1977-1981).

DAVIS, JOSEPH STEVEN, Ph.D. (University of Iowa)
Professor of Botany, Arts and Sciences (1966-1977).

DAVIS, JOY H., Ed.D. (University of Florida)
Associate Professor, College of Nursing (1975-1980).

DAVIS, MICHAEL J., Ph.D. (University of California at Berkeley)
Assistant Professor, Plant Pathology, AREC-Ft. Lauderdale (1981-1981).

DAVIS, MICHELLE, B.A. (University of Massachusetts)
Assistant Director of Public Relations, Shands Teaching Hospital and Clinics, Inc. (1981-1981).

DAVIS, R. HUNT, JR., Ph.D. (University of Wisconsin)
Associate Professor of History and Director of the Center for African Studies (1967-1976).

DAVIS, RICHARD H., M.A. (Michigan State University)
Residence Director, Housing (1981-1981).

DAWSON, GEORGE L., J.D. (University of Chicago)
Associate Professor of Law (1981-1981).

DAWSON, WILLIAM W., Ph.D. (Florida State University)
Professor of Ophthalmology (1965-1969).

DAY, ARTHUR L., M.D. (Louisiana State University)
Assistant Professor of Neurological Surgery (1978-1978).

DAY, JANE ANN, M.A. (University of Alabama at Birmingham)
Assistant Professor of Physical Therapy (1977-1977).

DEAKIN, MOTLEY FREMONT, Ph.D. (University of California at Berkeley)
Professor of English (1962-1981).

DEAL, WILLIAM B., M.D. (University of North Carolina)
Professor of Medicine, Dean, College of Medicine and Associate Vice President for Clinical Affairs (1970-1980).

DEAN, CHARLES EDGAR, Ph.D. (North Carolina State University)
Professor and Chairman, Agronomy (1959-1979).

DEAN, NANCY E., M.Ed. (University of Florida)
University School Instructor, P. K. Yonge Laboratory School (1973-1978).

DEARMIN, LINDA L., M.S. (University of Tennessee)
Associate Professor (Extension 4-H Youth Specialist), IFAS (1970-1975).

DE BEAUGRANDE, ROBERT ALAIN, Ph.D. (University of California at Irvine)
Associate Professor of English and Linguistics (1978-1980).

DEBUSK, FRANKLIN L., M.D. (Johns Hopkins University)
Professor of Pediatrics, Chief of Pediatric General Services and Director of Pediatric Clinic (1966-1973).

DEEVEY, EDWARD S. JR., Ph. D. (Yale University)
Graduate Research Professor, Florida State Museum (1971-1971). Graduate Research Professor of Zoology, Botany, Geology, and Latin American Studies (1971-1971).

DEFUNIAK, H.R., M.S.
Librarian and Chairperson of Circulation (1966-1976).

DEGNER, JANET D., M.S. (Texas A&M University)
Assistant in Engineering (1977-1978).

DEGNER, ROBERT L., Ph.D. (Texas A&M University)
Associate Professor, Food and Resource Economics (1976-1981).

DEHGAN, BIJAN, Ph D. (University of California at Davis)
Assistant Professor, Ornamental Horticulture (1978-1978).

DEHOFF, ROBERT THOMAS, Ph.D. (Carnegie — Mellon University)
Professor of Materials Science and Engineering (1959-1970).

DE LA TORRE, JOSE I., M.D. (University of Havana)
University Psychiatrist (1979-1979).

DELONY, DEXTER, L.L.M. (Harvard University)
Professor of Law (1948-1951).

DELL, PAUL C., M.D. (University of Florida)
Assistant Professor of Orthopaedic Surgery (1978-1978).

DEMOSS, MICKIE, M.Ed. (Memphis State University)
Head Women's Basketball Coach (1979-1979).

DENCE, LILLIAN MARIE C., M.A.E. (University of Florida)
Assistant Director for User Services, NERDC (1973-1978).

DENG, JUENCHIN, Ph.D. (University of Georgia)
Associate Professor, Food Science and Human Nutrition (1974-1979).

DENSLOW, DAVID ALBERT, Ph.D. (Yale University)
*Associate Professor of Economics (1970-1975).**

DENSLOW, PATRICIA JANICE, B.S. (Iowa State University)
University School Provisional Instructor, P. K. Yonge (1981-1981).

DEPADUA, CONSTANTE B., M.D. (University of the Philippines)
Associate Professor of Anesthesiology (1967-1974).

DEPALMA, RUTH A., M.S.N. (University of Florida)
Instructor, College of Nursing (1981-1981).

DER-HOUSSIKIAN, HAIG, Ph.D. (University of Texas)
Professor of Foreign Languages and Linguistics (1967-1977).

DERRICK, CLARENCE, Ph.D. (University of Chicago)
Professor of Humanities (1953-1962).

DETWEILER, JOHN S., Ed.D. (University of Florida)
Professor of Journalism and Communications (1965-1979).

DEVANE, CARL LINDSAY, Pharm. D. (Mercer University)
Assistant Professor of Pharmacy Practice (1980-1980).

DEVANE, GARY, W. M.D. (Baylor College of Medicine)
Assistant Professor of Obstetrics and Gynecology (1980-1980).

DEWSBURY, DONALD ALLEN, Ph.D. (University of Michigan)
Professor of Psychology (1966-1973).

DEYRUP, JAMES A., Ph.D. (University of Illinois)
Professor of Chemistry (1965-1974).

DIAZ, NILS JUAN, Ph.D. (University of Florida)
Professor of Nuclear Engineering Sciences (1969-1979).

DICKERSON, LAUREL B., Ph.D. (Michigan State University)
Assistant Professor in Education (1977-1978).

DICKISON, SHEILA K., Ph.D. (Bryn Mawr College)
Associate Professor of Classics (1976-1976).

DICKSON, DONALD WARD, Ph.D. (North Carolina State University)
Professor, Entomology and Nematology (1968-1979).

DILL, KEN A., Ph.D. (University of California at San Diego)
Assistant Professor of Chemistry (1981-1981).

DILLER, GEORGE T., Ph.D. (Stanford University)
Associate Professor of French (1968-1973).

DINCULEANU, NICOLAE, Ph.D. (University of Bucharest)
Professor of Mathematics (1977-1977).

DINNING, JAMES S., Ph.D. (Oklahoma State University)
Associate Research Scientist, Food Science and Human Nutrition (1976-1978).

DIPPON, DUANE R., Ph.D. (Oregon State University)
Assistant Professor, Forest Resources and Conservation (1981-1981).

DIRECTOR, KENNETH L., M.D. (Albany Medical College)
Assistant Professor, VAMC (1976-1976).

DIXON JAMES E.,III, J.D. (Notre Dame)
Assistant Dean and Lecturer (1980-1980).

DOCKERY, J. LEE, M.D. (University of Arkansas)
Professor of Obstetrics and Gynecology and Associate Dean (1975-1981.).

DODDINGTON, HAROLD WILLIAM, Ph.D. (University of Florida)
Engineer in Engineering Sciences (1974-1980).

DOERING, PAUL LOUIS, M.S.P. (University of Florida)
Associate Professor of Pharmacy (1976-1981).

DOHERTY, HERBERT JOSEPH, Ph.D. (Univ. of North Carolina)
Professor of History and Social Sciences and Director of Social Sciences, Behavioral Studies, and Humanities; Director, Honors Program (1949-1980).

DOLBIER, WILLIAM READ, JR., Ph.D. (Cornell University)
Professor of Chemistry (1966-1975).

DOMINIAK, KENNETH E., Ph.D. (Polytechnic Institute of Brooklyn)
Associate Research Scientist of Industrial Systems Engineering (1970-1978).

DONELIN, DAN W., M.L.A. (Michigan State University)
Professor of Landscape Architecture (1970-1980).

DONNELLY, ARTHUR R., Ed.D. (Vanderbilt University)
Assistant Librarian (1981-1981).

DONNELLY, WILLIAM H., M.D. (University of Ottawa, Canada)
Associate Professor of Pathology and Pediatrics (1971-1976).

DONSELMAN, H. M., Ph.D. (Purdue University)
Assistant Professor, Ornamental Horticulture, AREC-Ft. Lauderdale (1976-1976).

DORMAN, P.E., Ed.D. (State University of New York)
Professor of Music (1971-1980).

DORSEY, JOHN G., Ph.D. (University of Cincinnati)
Assistant Professor of Chemistry (1979-1979).

DOSE, ERIC VON, Ph.D. (Rice University)
Assistant Professor of Chemistry (1979-1979).

DOTY, KEITH LONNIE, Ph.D. (University of California at Berkeley)
Professor of Electrical Engineering (1968-1980).

DOUGAN, KAREN, M. S. (Western Illinois University)
Assistant in Mathematics (1979-1979).

DOUGAN, THOMAS R., M.S. (Western Illinois University)
Assistant Dean for Student Services (1977-1977).

DOUGHERTY, MOLLY CROCKER, Ph.D. (University of Florida)
Professor, College of Nursing (1973-1980).

DOUGHTY, PAUL L., Ph.D (Cornell University)
Professor of Anthropology (1971-1971).

DOUGLAS, CARROLL REECE, Ph.D. (University of Tennessee)
Professor, Poultry Science (1969-1979).

DOW, J. KAMAL, Ph.D. (University of Missouri)
Associate Professor, Food and Resource Economics, and Chief of Party, International Programs (Ecuador) IFAS (1968-1981).

DOWNIE, RICHARD D., Ph.D. (Michigan State University)
Assistant Dean and Director, International Student Services (1976-1976).

DRAKE, DAVID A., Ph.D. (Syracuse University)
Professor of Mathematics (1968-1980).

DRESDNER, RICHARD D., Ph.D. (Pennsylvania State University)
Professor and Chairman, Department of Reproduction, College of Veterinary Medicine (1977-1978).

DRUM, CAROL ANN, M.L.S.
Associate Librarian in Charge of Chemistry Library (1972-1977).

DRUMMOND, H. EVAN, Ph.D. (Purdue University)
Professor, Food and Resource Economics (1979-1979).

DRUMMOND, WILLA H., M.D. (University of Pennsylvania)
Assistant Professor of Pediatrics (1978-1978).

DRUMMOND, WILLIAM H., Ed.D. (Stanford University)
Professor of Education (1972-1972).

DRYLIE, DAVID M., M.D (Bowman Gray University)
Professor of Surgery and Chief, Urology (1963-1974).

DUCKWORTH, ALISTAIR M., Ph.D. (Johns Hopkins University)
Professor of English (1973-1980).

DUCKWORTH, DONNA H., Ph.D. (Johns Hopkins University)
Professor of Immunology and Medical Microbiology (1973-1981).

DUDECK, A.E., Ph.D. (Pennsylvania State University)
Associate Professor, Ornamental Horticulture (1970-1973).

DUFFY, JOSEPH, Ph.D. (University of Liverpool, U.K.)
Professor of Mechanical Engineering (1979-1979).

DUFTY, JAMES WELLONS, Ph.D. (Lehigh University)
Professor of Physics (1970-1978).

DUGAN, EDWARD THOMAS, Ph.D. (University of Florida)
Assistant Professor of Nuclear Engineering Sciences (1981-1981).

DUGGAN, DENNIS E., Ph.D. (Oregon State University)
Associate Professor, Microbiology and Cell Science, (1969-1969).

DUNAVANT, BILLY G., Ph.D (Purdue University)
Director, Environmental Health and Safety; Professor of Nuclear Engineering Sciences, Environmental Engineering Sciences, and Basic Dental Sciences (1960-1966).

DUNAVIN, LEONARD SYPRET, JR., Ph.D. (University of Florida)
Associate Professor, Agronomy, AREC-Jay (1959-1967).

DUNCAN, ANDREW ADRIAN, Ph D. (University of Maryland)
Center Director and Professor, Vegetable Crops, AREC-Homestead, IFAS (1975-1975).

DUNCAN, CATHERINE H., M.S.P. (University of Florida)
Assistant in Pharmacy (1979-1979).

DUNCAN, R. PAUL, Ph.D. (Purdue University)
Associate Professor in Health Services Administration (1979-1979).

DUNCAN, RUTH, M.A. (University of Alabama)
University School Assistant Professor, P.K. Yonge Laboratory School (1972-1978).

DUNCAN, WILLIAM GRAHAM, Ph.D. (Purdue University)
Professor, Agronomy (1970-1970)

DUNKLE, JOHN R., Ph.D. (Clark University)
Professor of Geography and Physical Sciences (1949-1965).

DUNN, ADRIAN J., Ph.D. (University of Cambridge)
Associate Professor of Neuroscience (1973-1977).

DUNN, BEN M., Ph.D. (University of California)
Associate Professor of Biochemistry and Molecular Biology (1974-1980).

DUNN, LUCIA F., Ph.D. (University of California at Berkeley)
Associate Professor of Economics (1981-1981).

DUNN, ROBERT A., Ph.D. (Cornell University)
Associate Professor, Entomology and Nematology (1975-1980).

DUNNAM, FRANCIS EUGENE, Ph.D. (Louisiana State University)
Associate Dean of the College of Liberal Arts and Sciences and Professor of Physics (1958-1979).

DUPREE, SHERRY A., A.M.L.S.
Assistant Librarian, Reference and Bibliography (1977-1977).

DURRANCE, KENNETH LEROY, M.Agr. (University of Florida)
Professor, Animal Science (1954-1976).

DUSKY, JOAN A., Ph.D. (North Dakota State University)
Assistant Professor, Vegetable Crops, AREC-Belle Glade (1980-1980).

DUTOIT, BRIAN MURRAY, Ph.D. (University of Oregon)
Professor of Anthropology (1966-1975).

DYKES, ELMA ETHEL, M.A. (New York University)
Associate Professor, College of Nursing (1962-1978).

DYKES, MARY KAY, Ph.D. (University of Texas)
Professor of Special Education (1972-1981).

EADES, JAMES LYNWOOD, Ph.D. (University of Illinois)
Associate Professor of Geology and Civil Engineering (1970-1980).

EASLEY, JOHN FOREST, M.S. (University of Florida)
Assistant Professor, Animal Science (1962-1962).

EASON, MARCUS A., M.S. (University of Georgia)
Assistant Professor, Food and Resource Economics, AREC-Quincy (1981-1981).

EASTWOOD, RALPH ALLEN,, Ph.D. (Cornell University)
Professor, Food and Resource Economics (1957-1957).

EBCIOGLU, IBRAHIM K., Ph.D. (University of Minnesota)
Professor of Engineering Sciences (1961-1966).

EBEL, KEVIN C., B.S. (University of Florida)
U.S. Navy, Assistant Professor of Naval Science (1981-1981).

ECHELBERGER, PERRY M., B.A. (Florida State University)
Assistant in Broadcasting of Journalism and Communications and Radio Station Manager, WUFT-FM (1980-1980).

ECKDAHL, JACK POLK, M.Ed (University of Missouri)
Associate Professor of Physical Education (1951-1979).

EDDS, GEORGE TYSON, D.V.M. (Texas A & M University), Ph.D. (University of Minnesota).
Professor, Preventive Medicine, College of Veterinary Medicine, IFAS (1962-1971).

EDDY, ELIZABETH M., Ph.D. (Columbia University)
Professor of Anthropology (1967-1974).

EDENFIELD, LORRAINE GAIL, M.Ed. (University of Florida)
University School Instructor, P.K Yonge (1981-1981).

EDMOND, CLARENCE D., Ph.D (Iowa State University)
Extension Scientist and Coordinator of Leadership Training, Food and Resource Economics (1977-1981).

EDSON, CHARLES GRANT, M.S.E. (University of Florida)
Associate Professor of Engineering Sciences (1946-1951).

EDWARDS, BRUCE HAVEN, Ph.D. (Dartmouth College)
Associate Professor of Mathematics (1976-1981).

EDWARDS, CARLA F., M.S. (Florida State University)
Assistant Director of Housing for Residence Life (1980-1980).

EDWARDS, GEORGE J., B.A. (Bridgewater College)
Assistant Professor, Fruit Crops, AREC-Lake Alfred (1953-1970).

EDWARDS, MARC H., M.A. (North Carolina State University)
Director of Purchasing, Shands Teaching Hospital and Clinics, Inc. (1981-1981).

EDWARDSON, JOHN RICHARD, Ph.D. (Harvard University)
Professor, Agronomy (1953-1966).

EDWARDSON, MICKIE N., Ph.D. (Michigan State University)
*Professor of Journalism and Communications (1956-1971).**

EICHHORN, HEINRICH KARL, DR. Phil. (University of Vienna)
Professor of Astronomy and Chairman (1979-1979).

EIDSON, GERALD H., B.S.
Associate in Medical Program Development, Office of Vice President for Health Affairs, J. Hillis Miller Health Center (1975-1975).

EISENBERG, MARTIN ALLAN, D. Eng. (Yale University)
Associate Chairman and Professor of Engineering Sciences (1966-1980).

EITZMAN, DONALD V., M.D. (University of Iowa)
Distinguished Service Professor, Chief of Neonatology (1958-1979).

ELDRIDGE, J. EVAN, M.S.E.E. (Florida Institute of Technology)
Computer Research Specialist, Bureau of Economic and Business Research (1971-1975).

ELFENBEIN, GERALD J., M.D. (Johns Hopkins University)
Associate Professor of Medicine and Immunology and Medical Microbiology (1981-1981).

ELGERD, OLLE INGEMAR, D.Sc. (Washington University of St. Louis, Missouri)
*Professor of Electrical Engineering (1956-1962).**

ELKINS, VIRGIL LYNN, M.S.A. (Florida A&M University)
Professor, Food and Resource Economics (1949-1961).

ELLENSON, EUGENE, B.A. (Georgia)
Executive Secretary of Gator Boosters, 1960-1974).

ELLERBROCK, MICHAEL J., Ph.D. (Clemson University)
Assistant Professor, Food and Resource Economics (1981-1981).

ELLIOTT, HERSCHEL HUGH, Ph.D. (Yale University)
Associate Professor of Philosophy (1955-1960).

ELLIOTT, ROGER W., Ph.D. (University of Texas)
Professor and Chairman of Computer and Information Sciences, College of Engineering (1977-1977).

ELLIS, GEORGE L., Ph.D. (University of Florida),
Associate Research Scientist, International Programs (Ecuador), IFAS (1979-1980).

ELLIS, WILLIAM HOBART, Ph.D. (Florida State University)
Associate Professor of Nuclear Engineering Sciences (1962-1966).

ELMORE, WILLIAM E., B.S. C.P.A. (The Citadel)
Vice President for Administrative Affairs (1950-1967).

ELMSTROM, GARY WILLIAM, Ph.D. (University of California)
Center Director and Professor, Vegetable Crops ARC-Leesburg (1969-1981).

ELNICKI, RICHARD A., D.B.A. (Harvard University)
Associate Professor of Management and Associate Professor of Health and Hospital Administration (1971-1971).

ELZINGA, DONALD JACK, Ph.D. (Northwestern University)
Professor and Chairman of Industrial and Systems Engineering (1979-1979).

EMERSON, ANN P., M.S. (University of Florida)
Program Director and Associate Professor, Clinical and Community Dietetics (1969-1974).

EMERSON, ROBERT D., Ph.D. (Purdue University)
Associate Professor, Food and Resource Economics (1970-1976).

EMMEL, THOMAS C., Ph.D. (Stanford University)
Professor and Chairperson, Department of Zoology (1968-1976).

ENGEBRETSON, MARY E., M.B.A. (Arizona State University)
Associate Librarian, Reference and Bibliography (1978-1978).

ENGEL, STEVEN I., M.S. (University of North Carolina)
Assistant in Pharmacy (1981-1981).

ENGELHARD, ARTHUR W., Ph.D. (Iowa State University)
Professor, Plant Pathology, AREC-Bradenton (1966-1977).

ENNEKING, WILLIAM F., M.D. (University of Wisconsin)
Distinguished Service Professor, Department of Orthopaedic Surgery (1959-1980).

ENNIS, WILLIAM B., Ph.D. (University of Wisconsin)
Center Director and Professor, Agronomy, AREC-Ft. Lauderdale (1975-1975).

ENO, CHARLES FRANKLIN, Ph.D. (Purdue University)
Professor and Chairman, Soil Science (1950-1965).

ENTERLINE, JULIE, M.A. (Catholic University)
Lieutenant Commander, U.S. Navy, Assistant Professor of Naval Science (1981-1981).

ENTNER, MARVIN LEE, Ph.D. (University of Minnesota)
Associate Professor of History (1961-1968).

EOFF, KAY MARVIN, Ph.D. (University of Florida)
Assistant Professor of Physical Sciences and Geography (1962-1968).

EPPES, BILL GORTON, M. Arch. (University of Texas)
Professor of Building Construction (1968-1973).

EPTING, FRANZ R., Ph.D. (Ohio State University)
Professor of Psychology (1967-1979).

ERDOS, GREGORY W., Ph.D. (University of North Carolina)
Assistant in Microbiology and Cell Science (1979-1979).

ESSER, ALFRED F., Ph.D. (J.W. Goethe University)
Professor, Division of Comparative Pathology, College of Veterinary Medicine (1981-1981).

EURELL, JOANN C., D.V.M. (Purdue University) Ph.D. (Texas A&M University)
Assistant Professor, Department of Metabolism, College of Veterinary Medicine (1979-1979)

EVANS, DAVID HUDSON, Ph.D. (Stanford University)
Professor of Zoology (1981-1981).

EVERETT, PAUL HARRISON, Ph.D. (Purdue University)
Professor, Soil Scientc, AREC-Immokalee (1958-1968).

EVERITT, JACK M., Ed.D. (University of Georgia)
Director of Continuing Education/Conferences and Institutes (1981-1981).

EWEL, JOHN J., Ph.D. (University of North Carolina)
Associate Professor of Botany, Arts and Sciences (1971-1976).

EWEL, KATHERINE C., Ph.D. (University of Florida)
Associate Professor, Forest Resources and Conservation (1972-1981).

EYLER, JOHN ROBERT, Ph.D. (Stanford University)
Associate Professor of Chemistry (1974-1979).

FABER, ALICE, Ph.D. (University of Texas)
Assistant Professor of Classics (1980-1980).

FAGERBERG, SEIGFRED WALTER, Ed.D. (University of Southern Mississippi)
Professor of Health Education and Safety (1971-1979).

FAGUNDO, FERNANDO ENRIQUE, Ph.D. (Cornell University)
Assistant Professor of Civil Engineering (1980-1980).

FAHIEN, RAYMOND W., Ph.D. (Purdue University)
Professor of Chemical Engineering (1964-1964).

FAIRBANKS, CHARLES H., Ph.D. (University of Michigan)
Distinguished Service Professor of Anthropology (1963-1976).

FALK, BRYCE W., Ph.D. (University of California, Berkeley)
Assistant Professor, Entomology and Nematology, AREC-Belle Glade (1980-1980).

FALZONE, ROBERT L. M.B.A. (University of Florida)
Visiting Instructor of Marketing (1981-1981).

FARBER, ERICH ALEXANDER, Ph.D. (University of Iowa)
Distinguished Service Professor of Mechanical Engineering (1954-1979).

FARICY, JOHN H., Ph.D. (University of Minnesota)
Assistant Dean of Undergraduate Study, College of Business Administration and Professor of Marketing (1966-1978).

FARRAH, SAMUEL R., Ph.D. (Pennsylvania State University)
Assistant Professor, Microbiology and Cell Science (1977-1977).

FAST, THOMAS B., D.D. S. (Ohio State University), M.S.D. (Indiana University)
Professor of Oral Medicine (1971-1974).

FEARN, RICHARD LEE, Ph.D. (University of Florida)
Professor of Engineering Sciences (1965-1979).

FEASTER, JOHN PIPKIN, Ph.D. (University of North Carolina)
Professor, Animal Science (1951-1968).

FEINBERG, ROBERT M., B.S., B.A. (University of Florida)
Associate Director, Office of Instructional Resources (1962-1974).

FEINSINGER, PETER, Ph.D. (Cornell University)
Associate Professor of Zoology (1976-1980).

FEISS, C., M.C.P., F.A.I.A., AICP (M.I.T.)
Professor of Urban and Regional Planning (1971-1975).

FELDHERR CARL M., Ph.D. (University of Pennsylvania)
Professor of Anatomy and Biochemistry (1967-1977).

FELDMAN, ALBERT W., Ph.D. (University of Minnesota)
Professor, Plant Pathology, AREC-Lake Alfred (1959-1959).

FELDMAN, DANIEL C., Ph.D. (Yale University)
Associate Professor of Management (1981-1981).

FELDMAN, JACK M., Ph.D. (University of Illinois)
Associate Professor of Management (1972-1975).

FELDMAN, ROBERT L., M.D., (Rutgers University)
Assistant Professor of Medicine (1979-1979).

FELMAN, ALVIN H., M.D. (University of Cincinnati)
Professor of Radiology (1969-1974).

FENNELL, EILEEN B., Ph.D. (University of Florida)
Assistant Professor of Clinical Psychology (1978-1978).

FENNELL, ROBERT S., III, M.D. (University of Florida)
Associate Professor of Pediatric Nephrology and Medical Director for the Comprehensive Children's Kidney Treatment Center (1973-1979).

FENWICK, JACK P., JR., B. Arch. (Tulane University)
Planning Consultant, Division of Plannning and Analysis (1979-1980).

FERGUSON, JAMES JOHN, Ph.D. (University of California, Riverside)
Assistant Professor, Fruit Crops (1981-1981).

FERGUSON, MARY ANN, M.A. (University of Wisconsin)
Provisional Assistant Professor of Journalism and Communications (1981-1981).

FERGUSON, RAYMOND CARL, M.Ed. (Pennsylvania State University)
Associate Professor of Education (1962-1975).

FERGUSON, SARAH CAROLINE, M.S. (Columbia)
Associate University Librarian, P.K. Yonge Laboratory School (1951-1962).

FERL, ROBERT J., Ph.D. (Indiana University)
Assistant Professor of Botany (1980-1980).

FEY, THOMAS F., E.D.D. (University of Florida)
University School Assistant Professor, P.K. Yonge Laboratory School (1978-1978).

FIELD, F. PETER, Ph.D. (University of Florida)
Associate Professor and Associate Chairman Pharmacy (1973-1973).

FIELD, JR., RICHARD D., Ph.D. (University of California at Berkeley)
Professor of Physics (1980-1980).

FIELDS, MICHAEL J., Ph.D. (Texas A & M University)
Associate Professor, Animal Science (1973-1981).

FILLMER, HENRY T., Ph.D. (Ohio University)
Professor of Education (1967-1972).

FINGER, KENNETH FRANKLIN, Ph.D. (University of Wisconsin)
Professor, College of Pharmacy and Acting Vice President for Health Affairs (1968-1980).

FINKELSTEIN, JOHN, Ph.D. (Wharton School, University of Pennsylvania)
Assistant Professor of Finance (1980-1980).

FINLAYSON, BIRDWELL, M.D., Ph.D. (University of Chicago)
Professor of Surgery (1967-1973).

FINLEY, M. CLAUDETTE, M.S. (Vanderbilt University)
Associate Professor of Physical Therapy (1969-1969).

FINN, HARVEY D.,
Associate Director, Administrative Computing Services (1967-1980).

FISCHLER, IRA S., Ph.D. (Stanford University)
Associate Professor of Psychology (1973-1978).

FISCHLSCHWEIGER, WERNER, Ph D. (University of Graz)
Professor of Basic Dental Sciences (1969-1973).

FISHER, FRANCES W., M.Ed. (University of Florida)
Associate Professor of Medical Technology (1973-1978).

FISHER, NORMA PAIGE, M.A E. (University of Florida)
Associate Professor and Associate Chairman of Physical Therapy (1964-1981).

FISHER, RICHARD F., Ph.D. (Cornell University)
Professor, Forest Resources and Conservation (1977-1981).

FISHER, SUSANNE G., Ph.D. (University of Minnesota)
Professor, Assistant Dean and Department Chairperson, 4-H and Other Youth Programs (1981-1981).

FISHER, WALDO R., M.D., Ph.D. (University of Pennsylvania)
Professor of Medicine and Biochemistry (1965-1978).

FISHKIND, HENRY H., Ph.D. (Indiana University)
Associate Professor of Economics and Associate Director of Bureau of Economic and Business Research (1975-1980).

FISHMAN, MARK B., M.A. (University of Texas at Austin)
Instructor of Computer and Information Sciences (1980-1980).

FISKELL, JOHN GARTH AUSTIN, Ph.D. (McGill University)
Professor, Soil Science (1951-1961).

FITZGERALD, JAMES T., B.S.B.A. (University of Florida)
Assistant in Electrical Engineering (1970-1980).

FITZGERALD, LAWRENCE T., Ph.D. (University of Florida)
Associate Proessor of Radiology (1974-1979).

FITZGERALD, PAUL W., Ed.D. (Florida State University)
Professor of Education (1975-1975).

FITZPATRICK, GEORGE, Ph.D. (Rutgers University)
Assistant Professor, Ornamental Horticulture, AREC-Ft. Lauderdale (1976-1979).

FITZSIMMONS, JEFFREY R., Ph.D. (University of Florida)
Instructor of Radiology/VAMC (1979-1979).

FLANEGAN, JAMES B., Ph.D. (University of Michigan)
Assistant Professor of Immunology and Medical Microbiology (1978-1978).

FLANNERY, MERLE ELIZABETH, Ed.D. (Pennsylvania State University)
Associate Professor of Education (1966-1978).

FLESHER, CAROL K., Ph D. (University of Florida)
University Counseling Psychologist, University Counseling Center (1965-1965).

FLINCHUM, D. MITCHELL, Ph.D. (North Carolina State University)
Assistant Professor, Forest Resources and Conservation (1979-1979).

FLOWERS, JOHN WILSON, Ph.D. (University of Virginia)
Professor of Physics (1947-1953).

FLUCK, RICHARD CONRAD, Ph.D. (North Carolina State University)
Professor, Agricultural Engineering (1965-1977).

FOGLER, H. RUSSELL, Ph.D. (Columbia University)
Professor of Management (1971-1979).

FOLEY, JEREMY, M.Ed. (Ohio University)
Assistant Athletic Director (1977-1980).

FOLKERTS, LORRAINE NERO, B.S.P. (University of Florida)
Assistant in Pharmacy (1974-1975).

FOLITZ, JOHN L, Ph.D. (University of Michigan)
Assistant Professor, Entomology and Nematology (1977-1977).

FONG, MARGARET L., Ph.D. (Arizona State University)
Assistant Professor of Education (1981-1981).

FORBES, RICHARD B., Ph.D. (Pennsylvania State University)
Associate Professor, Soil Science, AREC-Sanford (1948-1967).

FORD, HARRY W., Ph.D. (Ohio State University)
Professor, Fruit Crops, AREC-Lake Alfred, (1950-1962).

FOREMAN, RONALD C., JR., Ph.D. (University of Illinois)
Associate Professor of English, Director of Afro-American Studies Program (1970-1970).

FORGNONE, CHARLES, Ed.D. (George Peabody College)
Professor of Education Special Education (1970-1979).

FORGNONE, MARGARET M., B.S.P. (Purdue University)
Assistant in Pharmacy (1978-1978).

FORNOFF, GERALD A., B.A. (Valparaiso University)
Director of Admissions/Financial Arrangements, Shands Teaching Hospital and Clinics, Inc. (1979-1979).

FORRESTER, DONALD JASON, Ph.D. (University of California)
Professor, Preventive Medicine, College of Veterinary Medicine, IFAS (1969-1979).

FORT, SUSAN R., MSSW (University of Tennessee)
Director of Social Work Services, Shands Teaching Hospital and Clinics, Inc. (1980-1980).

FOSSUM, JERRY GEORGE, Ph.D. (University of Arizona)
Professor of Electrical Engineering (1978-1980).

FOSTER, EDWARD L., B.A. (Florida State University)
Assistant Head Swim Coach (1981-1981).

FOSTER, MAELEE THOMSON, M.F.A. (Temple University)
Associate Professor of Architecture (1971-1976).

FOSTER, SUSAN L., M.A. (University of Alabama)
Assistant Women's Basketball Coach (1980-1980).

FOSTER, MALCOLM T., JR., M.D. (Bowman Gray)
Professor and Chairman/JHEP (1977-1979).

FOUSE, SARAH BAIRD, M.M. (University of Kentucky)
Professor of Music (1968-1981).

FOUST, CHARLES WILMOTT, B.S. (Cooper Union)
Assistant in Chemical Education (1970-1970).

FOWLER, KENNETH H., M.L.A. (University of California at Berkeley)
Assistant Professor of Landscape Architecture (1979-1979).

FOX, WILLIAM MCNAIR, Ph.D. (Ohio State University)
Professor of Industrial Relations and Management (1954-1963).

FRANCIS, RICHARD L., Ph.D. (Northwestern University)
Professor of Industrial and Systems Engineering (1971-1971).

FRANCIS, VIRGINIA GLADYS, M.A.
Associate Librarian, Reference and Bibliography (1964-1971).

FRANCO, ADRIENNE, M.L.S. (Queens College)
Assistant Librarian, Catalog Department (1976-1976).

FRANZ, LAWRENCE R., JR., M.S.T. (University of Montana)
Associate in Natural Sciences, Florida State Museum (1972-1972).

FRASER, ROBIN B., B.S. (University of Nebraska)
Development Director, College of Engineering (1981-1981).

FRAUMAN, SALLY A., M.S.N. (University of Florida)
Assistant Professor, College of Nursing (1974-1977).

FRAZER, WILLIAM JOHNSON, JR., Ph.D. (Columbia University)
*Professor of Economics (1957-1968).**

FRAZIER, CHARLES EDWIN, Ph.D. (Southern Illinois University)
Associate Professor of Sociology (1972-1977).

FREELAND, JAMES JACKSON, LL.B. (University of Florida)
Professor of Law (1957-1963).

FREEMAN, GEORGE ROLAND, M.S.A. (University of Florida)
Director, IFAS Facilities Operations, and Professor, Agricultural Engineering (1950-1977).

FREEMAN, THOMAS EDWARD, Ph.D. (Louisiana State University)
Professor, Plant Pathology, (1956-1979).

FREEMAN, WATSON LOUIS M., M.S.E. (University of Florida)
Associate Professor of Mechanical Engineering, Assistant Dean of the College of Engineering (1953-1977).

FREGLY, MARILYN S., Ph.D. (University of Florida)
Assistant Professor of Journalism and Communications (1973-1973).

FREGLY, MELVIN J., Ph.D. (University of Rochester)
Graduate Research Professor (1956-1979).

FRENCH, CHARLES E., Ph.D. (Texas A&M University)
Assistant Research Scientist, Agronomy (1978-1981).

FRENCH, WILLIAM JOHN, Ph.D. (New York State University)
Professor and Assistant Center Director, Plant Pathology, ARC-Monticello (1968-1981).

FREUND, GERHARD, M.D. (J. W. Goethe University, Germany)
Professor of Medicine and Neuroscience (1964-1975).

FRIAS, JAIME L., M.D. (University of Concepcion, Chile)
Professor of Pediatrics, Chief of Pediatric Genetics and Director of Birth Defects Center (1970-1977).

FRIED, MELVIN, Ph.D. (Yale University)
Professor of Biochemistry and Molecular Biology (1956-1972).

FRIEDRICH, EDUARD G., JR., M.D., (Johns Hopkins University)
Professor and Chairman of Obstetrics and Gynecology (1979-1979).

FRITZ, GEORGE J., Ph.D. (Purdue University)
Associate Professor, Agronomy (1960-1964).

FROMING, WILLIAM J., Ph.D. (University of Texas at Austin)
Assistant Professor of Psychology (1977-1977).

FRY, JACK L., Ph.D. (Purdue University)
Assistant Dean for Resident Instruction and Professor, Poultry Science (1964-1975).

FULLINGTON, ROBERT S., M.B.A. (University of Florida)
Associate University Registrar (1969-1980).

FUNK, ARTHUR LAYTON, Ph.D. (University of Chicago)
Professor of History (1946-1962).

GABIANELLI, VINCENT JAMES, M.Ed. (University of Miami)
*Curator and Chairman of Department of Interpretation, Florida State Museum (1968-1971).**

GABRIELSEN, BJARNE, Ph.D. (SUNY At Stony Brook)
Associate in Chemistry (1980-1980).

GADOW, SALLY A., Ph.D. (University of Texas)
Visiting Assistant Professor of Community Health and Medicine (1979-1979).

GADSDEN, THOMAS, Ed.D. (University of Florida)
University School Associate Professor, P.K. Yonge Laboratory School (1967-1977).

GAITANIS, LOUIS ANDREW, J.D. (University of Florida)
Professor of Real Estate and Urban Analysis (1946-1981).

GAITHER, ROBERT BARKER, Ph.D. (University of Illinois)
Professor of Mechanical Engineering and Chairperson of Department (1962-1966).

GALE, MARC A., D.M.D. (Tufts University)
Associate Professor of Operative Dentistry (1972-1978).

GALLAGHER, THOMAS J., M.D. (University of Kentucky)
Associate Professor of Anesthesiology and Chief, Division of Critical Care Medicine (1981-1981).

GALLAHER, RAYMOND N., Ph.D. (University of Georgia)
Associate Professor, Agronomy (1976-1976).

GAMBLE, DOVIE JANE, M.A. (New York University)
Assistant Professor of Recreation (1977-1977).

GANNON, MICHAEL VALENTINE, Ph.D. (University of Florida)
Professor of Religion and History and Assistant Dean, College of Arts and Sciences (1967-1976).

GANO, OVID RAYMOND, B.E.E. (University of Florida)
Assistant Professor of Radiology (1970-1970).

GARCIA-BENGOCHEA, FRANCISCO, M.D. (University of Havana and Tulane University)
Distinguished Service Professor of Neurological Surgery (1962-1976).

GARCIA, RUBEN V., Ph.D. (University of Texas)
Assistant Professor of Portuguese and Spanish (1977-1977).

GARDNER, FRANKLIN P., Ph.D. (Iowa State University)
Visiting Professor, Agronomy (1980-1980).

GARDNER, JOHN M., Ph.D. (Michigan State University)
Assistant Professor, Plant Pathology, AREC-Lake Alfred (1980-1980).

GARDNER, RENEE V., M.D. (Harvard Medical School)
Assistant Professor of Pediatrics (1981-1981).

GARG, LAL C., Ph.D. (University of Florida)
Associate Professor of Pharmacology and Therapeutics (1970-1976).

GARIN, EDUARDO H., M.D. (University of Chile)
Associate Professor of Pediatrics and Assistant Director of Comprehensive Children's Kidney Treatment Center (1974-1975).

GARNICA, ADOLFO D., M.D. (University of California)
Associate Proressor of Pediatrics (1974-1978).

GARRARD, LEON A., Ph.D. (University of Florida)
Associate Professor, Agronomy (1963-1978).

GARRETT, EDWARD ROBERT, Ph.D. (Michigan State University)
Graduate Research Professor of Pharmacy (1961-1961).

GARRETT, RICHARD EDWARD, Ph.D. (University of Virginia)
Professor of Physics (1963-1974).

GARRIGUES, ROBERT G., Ph.D. (Florida State University)
Associate in Health Services Administration and Assistant Vice President for Management and Budget, Office of Vice President for Health Affairs (1971-1977).

GARRINGTON, GEORGE E., D.D.S., M.P.H., M.S., (University of Maryland)
Assistant Dean for Admissions and Student Financial Aid and Professor of Oral Medicine (1973-1976).

GARY, REBECCA A., M.S.N. (University of Alabama)
Assistant Professor of Medicine (1979-1979).

GASCHE, ROBERT THURSTON, M.Ed. (University of Miami)
University School Instructor, P.K. Yonge Laboratory School (1968-1972).

GASKIN, JACK MICHAEL, D.V.M., Ph.D. (Cornell University)
Associate Professor, Preventive Medicine, College of Veterinary Medicine-IFAS (1973-1981).

GASKINS, MURRAY HENDRICKS, Ph.D. (University of Florida)
Professor, Agronomy (1973-1978).

GATER, ROGER ALLEN, Ph.D. (Purdue University)
*Associate Professor of Mechanical Engineering (1968-1973).**

GAY-CROSIER, RAYMOND, Docteur Es Lettres (Bern University)
Professor of French and Chair of the Department of Romance Languages and Literature (1967-1981).

GEARY, PATRICK J., Ph.D. (Yale University)
Associate Professor of History (1980-1980).

GEFTER, JEFFREY W., M.D., (University of Florida)
Assistant Professor of Radiation Therapy (1979-1979).

GEISER, EDWARD A., M.D. (University of Cincinnati)
Assistant Professor of Medicine (1979-1980).

GELATT, KIRK N , V.M.D. (University of Pennsylvania)
Professor and Dean, College of Veterinary Medicine (1976-1981).

GELLINEK, CHRISTIAN J., Ph.D. (Yale University)
*Professor of German (1971-1971).**

GENUNG, WILLIAM GORDON, M.S. (University of Florida)
Professor, Entomology and Nematology, AREC-Belle Glade (1949-1970)

GEORGE, DONALD E., M.D. (SUNY at Buffalo)
Assistant Professor of Pediatrics (1981-1981).

GEORGE, PAUL S., Ed.D. (George Peabody College for Teachers)
Professor of Education (1971-1981).

GERALDSON, CARROLL MORTON, Ph D. (University of Wisconsin)
Professor, Soil Science, AREC-Bradenton (1951-1969).

GERBER, JOHN FRANCIS, Ph.D. (University of Missouri)
Director, IFAS Grants Office and Professor, Fruit Crops (1960-1976).

GERENCSER, GEORGE A., Ph.D. (Indiana University)
Associate Professor of Physiology (1975-1979).

GERHARDT, KENNETH JAY, Ph.D. (Ohio State University)
Associate Professor of Speech (1978-1981).

GESSNER, IRA H., M.D. (University of Vermont)
Professor of Pediatrics and Chief of Pediatric Cardiology (1960-1970).

GETZEN, SAMUEL PACE
Manager, Campus Shop and Bookstore (1949-1960).

GFELLER, EDUARD, M.D. (University of Bern, Switzerland)
Professor and Chief of Psychiatry Service, VAMC (1978-1978).

GHOLZ, HENRY L., Ph.D. (Oregon State University)
Assistant Professor, Forest Resources and Conservation (1979-1979).

GIANNINI, RICHARD (University of Florida)
Associate Athletic Director (1978-1979).

GIBBS, CHARLES H., Ph.D. (Case Western Reserve University)
Associate Professor of Basic Dental Sciences (1974-1979)

GIBBS, CHARLES P., M.D. (Indiana University)
Professor of Anesthesiology and Obstetrics and Gynecology and Coordinator of Clinical Teaching in OB Anethesia (1972-1981).

GIBBS, E. PAUL J., B.V.S.C. and Ph.D. (Bristol University)
Professor, Preventive Medicine, College of Veterinary Medicine, IFAS (1979-1981).

GIBSON, DAVID WYLIE, M.S.C.E. (University of Miami)
Associate Professor of Civil Engineering (1974-1974).

GIESEL, JAMES T., Ph.D. (University of Oregon)
Associate Professor of Zoology (1970-1975).

GIFFORD, GEORGE EDWIN, Ph.D. (University of Minnesota)
Professor of Immunology and Medical Microbiology, College of Medicine and Professor of Microbiology and Cell Science, IFAS (1957-1968).

GILBERT, CARTER ROWELL, Ph.D. (University of Michigan)
Associate Curator of Ichthyology, Florida State Museum; Joint Associate Professor of Zoology and Latin American Studies (1961-1972).

GILBERT, EDWARD ETIMAR, B.A. (West State College of Colorado)
Assistant in Administration, IFAS (1973-1973).

GILES, GEOFFREY J., Ph.D. (Cambridge University)
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GILL, ALICE A., M.S. (Boston University)
Associate Professor of Occupational Therapy (1972-1977).

GILMAN, S.B., M.S. (Florida State University)
Assistant Librarian (1979-1979).

GIOVANE, FRANK, Ph.D. (University of Pennsylvania)
Associate Engineer of Astronomy (1980-1980).

GILREATH, JAMES P., Ph.D. (University of Florida)
Assistant Professor, Vegetable Crops, AREC-Bradenton (1981-1981).

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GLEESON, RICHARD A., Ph.D. (College of William and Mary)
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GLEIM, IRVIN N., Ph D. (University of Illinois)
Professor of Accounting (1971-1980).

GLENDENING, D.G., M.S. (University of Florida)
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GLICKSBERG, MANDELL, LL.M. (New York University)
Professor of Law (1953-1959).

GODBEY, KAROLYN L., M.S.N (University of Florida)
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GODDARD, FREDERICK OWEN, Ph.D. (Duke University)
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GODDARD, RAY EVERETT, Ph.D. (Texas A & M University)
Professor, Forest Resources and Conservation (1959-1976).

GOEBEL, GERALD G., D.M.D. (University of Florida)
Instructor of Community Dentistry (1980-1980).

GOLANT, STEPHEN M., Ph D. (University of Washington)
Associate Professor of Geography (1980-1981).

GOLDBERG, EUGENE P., Ph.D. (Brown University)
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GOLDHURST, WILLIAM, Ph.D. (Tulane University)
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GOLDMAN, JACQUELIN ROBERTA, Ph.D. (University of Illinois)
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GONDECK, ALLAN R., Ph.D. (University of Florida)
Assistant Engineer in Coastal and Oceanographic Engineering (1974-1974).

GONZALEZ, GERARDO M., Ph.D. (University of Florida)
Assistant Dean for Student Services and Director, Campus Alcohol Abuse Center (1977-1981).

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GORDON, ANDREW M., Ph.D. (University of California at Berkeley)
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Associate Professor, Food and Resource Economics (1977-1977).

GORDON, MICHAEL WALLACE, LL.B. (University of Connecticut)
Professor of Law (1968-1971).

GORDON, RICHARD E., M.D., Ph.D. (University of Michigan)
Associate Professor of Psychiatry (1967-1974).

GORDON, RONALD J., Ph.D. (Princeton University)
Professor of Chemical Engineering, (1969-1979).

GORMAN, BENJAMIN L., Ph.D. (Tulane University)
Professor of Sociology (1968-1973).

GOTTESMAN, STEPHEN T., Ph.D. (University of Manchester)
Professor of Astronomy and Physics (1971-1981).

GOTZ, VINCENT PAUL, M.S. (Purdue University)
Assistant Professor of Pharmacy Practice (1980-1980).

GOULD, ROBERT WILLIAM, Ph.D. (University of Florida)
Professor of Materials Science and Engineering (1964-1974).

GOULD, WILLIAM R., Ph.D. (University of Florida)
Associate Professor and Chairman of Physical Therapy (1978-1979).

GOWAN, SAMUEL CHARLES, M.A.
Assistant Director of Libraries (1973-1973).

GRABSTALD, HARRY, M.D. (University of Texas-Southwestern)
Professor of Surgery and Chief, Urology, VAMC (1979-1979).

GRAETZ, DONALD A., Ph.D. (University of Wisconsin)
Associate Professor, Soil Science (1971-1976).

GRAHAM, ELIZABETH PEELER, D.M.A. (Florida State University)
Assistant Professor of Music (1979-1979).

GRAHAM, JAMES HERBERT, Ph.D. (Oregon State University)
Assistant Professor, Soil Science, AREC-Lake Alfred (1981-1981).

GRAHAM, MARY ELIZABETH, M.A.E. (Arizona State University)
Associate Professor of Professional Physical Education (1964-1980).

GRAHAM-POLE, JOHN R., M.D. (St. Bartholomew's Hospital, London)
Associate Professor of Pediatrics (1981-1981).

GRAMS, RALPH R., M.D. (University of Minnesota)
Professor of Pathology (1973-1977).

GRATER, HARRY ALLEN, Ph.D. (Penn State University)
Professor of Psychology (1965-1965).

GRAUER, KENNETH A., M.D. (SUNY-Upstate)
Assistant Professor of Community Health and Family Medicine (1980-1980).

GRAUMLICH, THOMAS R., Ph.D. (Ohio State University)
Assistant Professor, Microbiology and Cell Science, AREC-Lake Alfred (1977-1978).

GRAVENSTEIN, JOACHIM S., M.D. (Harvard University)
Graduate Research Professor (1979-1979).

GRAVES, SHIRLEY A., M.D. (University of Miami)
Associate Professor of Anesthesiology and Pediatrics and Chief, Division of Pediatric Anesthesiology (1970-1974).

GRAY, RICHARD C., Ph.D. (University of Missouri)
Research Scientist, International Programs (Malawi) IFAS, (1981-1981).

GREEN, ALEX EDWARD SAMUEL, Ph.D. (University of Cincinnati)
Graduate Research Professor of Physics, Nuclear Engineering Sciences, Electrical Engineering, Engineering Sciences, and Astronomy, Director of ICAAS (1963-1963).

GREEN, CAROLYN S., M.Ed. (University of Florida)
Affirmative Action Officer (1980-1980).

GREEN, CONSTANCE RUTH, M.Ed. (Florida Atlantic University)
University School Visiting Instructor P.K. Yonge (1981-1981).

GREEN, JAMES RUSSELL, JR., M.D. (University of Virginia)
Professor of Medicine (1959-1979).

GREEN, RICHARD HAMILTON, Ph.D. (University of California at Berkeley)
Professor of English (1971-1971).

GREEN, RICHARD LOUIS, Ph.D. (University of Illinois)
Associate Professor of Theatre (1967-1972).

GREEN, VICTOR EUGENE, JR., Ph.D. (Purdue University)
Professor, Agronomy (1951-1965).

GREENAWALT, THOMAS CHARLES, Ed.D. (Louisiana State University)
Associate Professor, 4-H and Other Extension Youth Programs (1962-1966).

GREENBERG, MICHAEL J., Ph.D. (Harvard University)
Scientific Director (1981-1981).

GREENE, BARRY R., Ph.D. (St. Louis University)
Chairman and Associate Professor in Health Services Administration (1979-1981).

GREENE, DIANE B., MSN (University of Texas)
Assistant Professor, College of Nursing (1979-1979).

GREENWALT, THOMAS CHARLES, Ed.D. (Louisiana St. University)
Associate Professor, 4-H and Other Extension Youth Programs (1962-1966).

GREENWOOD, GORDON E., Ed.D. (University of Indiana)
Professor of Education (1967-1976).

GREER, MELVIN, M.D. (New York University)
Professor and Chairman, Department of Neurology and Professor of Pediatrics (1961-1974).

GREGALOT, ALAN B., M.S. (University of Florida)
Associate in Engineering Sciences (1980-1981).

GREGG, JAMES HENDERSON, Ph.D. (Princeton University)
Professor, Microbiology and Cell Science, (1951-1963).

GREGORY, FREDERICK, Ph.D. (Harvard University)
Associate Professor of History (1978-1980).

GREGORY, JESSE FORREST, III, Ph.D. (Michigan State University)
Associate Professor, Food Science and Human Nutrition (1977-1981).

GREGORY, JOHN W., Ph.D. (Ohio State University)
Associate Professor of Education (1972-1977).

GREGORY, MICHAEL DAVID, M.M.E. (Auburn University)
Assistant Professor of Music (1980-1980).

GREINER, ELLIS C., Ph.D. (University of Nebraska)
Associate Professor, Preventive Medicine, College of Veterinary Medicine, IFAS (1979-1981).

GRIERSON, WILLIAM, Ph.D. (Cornell University)
Professor, Fruit Crops, AREC-Lake Alfred. (1952-1965).

GRIFFIN, DANA G., III, Ph D (University of Tennessee)
Professor of Botany. (1967-1979).

GRIFFIN, GEORGE MELVIN, JR., Ph.D. (Rice University)
Professor of Geology (1979-1970).

GRIFFIN, MARGARET, (Florida State University)
Assistant Librarian, Catalog Department (1973-1980).

GRIFFIN, NANCY CLAIRE, M S. (University of Tennessee)
University School Assistant Professor, P.K. Yonge Laboratory School (1967-1978).

GRIFFIN, RICHARD D., B.A. (St. Cloud State University)
Director of Planned Giving (1979-1979).

GRIFFITH, JOHN L., Ed.D. (Oklahoma State University)
Professor of Journalism and Communications (1969-1975).

GRIGGS, CINDY C., M.S.N (Vanderbilt University)
Assistant Professor College of Nursing (1981-1981)

GRIGGS, HARRY H., Ph.D. (University of Iowa)
Professor of Journalism and Communications (1958-1970).

GRIGGS, RICHARD A., Ph.D. (Indiana University)
Associate Professor of Psychology (1974-1979).

GRIGSBY, JOHN R., Ed.D. (Columbia University)
Professor of Music (1967-1978).

GRIM, CHARLES JR., M.S.B.C. (University of Florida)
Assistant Professor of Building Construction (1967-1970).

GRIMM, JAMES C., M.Ed. (Bowling Green State University)
Director of Housing (1977-1977).

GRISSOM, EUGENE E., M.F.A. (State University of Iowa)
Professor of Art (1953-1978).

GRONWALL, RONALD R., D.V.M., Ph.D. (University of California at Davis)
Professor, Department of Medical Sciences, College of Veterinary Medicine (1975-1981).

GROOMS, ANN M., M.D. (University of Tennessee)
University Physician (1979-1979).

GROOMS, CAROLE H., M.L.S. (Florida State University)
Associate Librarian (1974-1979).

GROOMS, DONALD A., M.A. (UCLA)
Associate Professor of Journalism and Communications (1962-1970).

GROSS, SAMUEL, M.D. (University of Rochester)
Professor and Chief, Pediatric Hematology/Oncology (1981-1981).

GROW, THOMAS E., Ph.D. (University of Florida)
Assistant Professor of Basic Dental Sciences (1977-1977).

GUERTIN, WILSON H., Ph.D. (Michigan State University)
*Professor of Education (1960-1968).**

GUILD, RALPH T., III, M D. (University of Oklahoma)
Assistant Professor of Medicine (1981-1981).

GUINAGH, BARRY JOSEPH, Ph.D. (Michigan State University)
Associate Professor of Education (1968-1974).

GULL, DWAIN D., Ph.D. (Cornell University)
Associate Professor, Vegetable Crops (1958-1973).

GUM, GLENWOOD G., M.S. (University of Minnesota)
Assistant in Comparative Ophthalmology, Dept. of Special Clinical Sciences, College of Veterinary Medicine (1978-1978).

GUNBY, WILLIAM R., JR., M.B.A (Stetson University)
Professor of Building Construction (1973-1980).

GUNDERSEN, MARTIN G., M. Arch. (University of Florida)
Assistant Professor of Architecture (1981-1981).

GURIN, SAMUEL, Ph.D. (Columbia University)
Professor of Biochemistry (1969-1973)

GURLEY, WILLIAM B . Ph D (University of Georgia)
Assistant Professor, Microbiology and Cell Science (1979-1979).

GUSTAFSON, BO, A.B., Ph D. (Lund University, Sweden)
Assistant Research Scientist of Astronomy (1980-1980).

GUSTKE, LARRY DOUGLAS, Ph.D. (Texas A&M University))
Assistant Professor of Recreation (1981-1981).

GUTEKUNST, RICHARD R., Ph.D. (Cornell University)
Professor of Medical Technology and Dean of Health Related Professions (1980-1980).

GUTTINGER, HELLEN IRELAND, Ed.D. (University of Florida)
University School Associate Professor, P.K. Yonge Laboratory School (1968-1977).

GUZMAN, VICTOR L., Ph.D (Cornell University)
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HAASE, RONALD WAYNE, B. ARCH. (University of Minnesota)
Associate Professor of Architecture (1977-1977).

HABECK, DALE HERBERT, Ph.D. (North Carolina State University)
Professor, Entomology and Nematology (1963-1967).

HABERKERN, CHARLES, M.D. (Columbia College of Physicians and Surgeons)
Assistant Professor of Pediatrics (1980-1980).

HACKLER, RUTH NADINE, M.S. (Oklahoma State University)
Associate Professor, Extension Home Economics (1969-1969).

HADLEY, RUFUS TILMON, B.S.B.A. (University of North Carolina)
Director, Administrative Computing Services (1954-1969).

HAHN, WILLIAM, M.A. (Michigan State University)
Director of Family Housing and Conferences, Housing (1967-1977).

HALE, JAMES ALLEN, Ph.D. (University of Wisconsin)
Professor of Education (1975-1980).

HALE, JAMES PIERCE, M.S (University of Illinois)
Professor of Music (1957-1970)

HALE, MARK PENDLETON, JR., Ph.D. (University of Illinois)
Associate Professor of Mathematics (1970-1976).

HALL, C.B., Ph.D. (Cornell University)
Professor, Vegetable Crops (1950-1964).

HALL, DAVID W., Ph.D. (University of Florida)
Associate in Botany, Florida State Museum (1971-1981).

HALL, DONALD, W., Ph.D. (University of Florida)
Professor, Entomology and Nematology (1975-1980).

HALL, EVERETT E., JR., Ph.D. (University of Florida)
Clinical Psychologist (1961-1970).

HALL, KERMIT L., Ph.D. (University of Minnesota)
Associate Professor of History (1981-1981).

HALL, LINDA THORNTON, M.S.T. (Georgia Southern)
Associate Professor of Recreation (1969-1978).

HALL, MATTHEW B., D.D.S., M.D., (University of California at Los Angeles)
Assistant Professor of Oral and Maxillofacial Surgery (1978-1978).

HALLER, WILLIAM THURSTON, Ph.D. (University of Florida)
Associate Professor, Agronomy (1974-1978).

HALLIWELL, RICHARD E., V.M.B., Ph.D. (University of Cambridge)
Professor and Chairman, Department of Medical Sciences, College of Veterinary Medicine (1977-1981).

HALLMAN, CLEMENS L., Ph.D. (Indiana University)
Associate Professor of Education (1973-1973).

HALPERIN, DON A., Ph.D. (Virginia Polytechnic Institute)
Professor of Building Construction and Director of the Halperin-Conway Research Center (1953-1973).

HALSEY, LAWRENCE HENRY, M.S.A. (University of Florida)
Associate Professor, Vegetable Crops (1948-1968).

HAMACHER, HORST W., Ph.D. (University of Cologne)
Visiting Assistant Professor of Industrial and Systems Engineering (1981-1981).

HAMACHER, HOWARD BROCKMAN, M.Arch. (University of Kansas)
Professor of Architecture (1956-1976).

HAMLEN, RONALD ALAN, Ph.D. (Pennsylvania State University)
Associate Professor, Entomology and Nematology, AREC-Apopka (1973-1978).

HAMLIN, DEREK J., M.D. (University of Capetown, South Africa)
Assistant Professor of Radiology, (1980-1980).

HAMMER, LOWELL CLARK, Ph.D. (University of Florida)
Professor of Communicative Disorders and Speech (1960-1979).

HAMMER, MARIE S., M.H.E. (University of Arizona)
Associate Professor, Extension Home Economics (1969-1975).

HAMMER, RICHARD HARTMAN, Ph.D. (University of Arizona)
Professor of Medicinal Chemistry and Assistant Dean for Student Affairs, College of Pharmacy (1963-1979).

HAMMOND, FRANKIE A., M.A. (University of Florida)
Assistant Professor of Journalism and Communications (1976-1978).

HAMMOND, LUTHER CARLISLE, Ph.D. (Iowa State University)
Professor, Soil Science (1950-1964).

HANCOCK, DONALD E., M.B.A. (University of Kentucky)
Director of Clinical Services, Shands Teaching and Clinics, Inc. (1976-1981).

HANNAH, LARKIN CURTIS, Ph.D. (University of Wisconsin)
Associate Professor, Vegetable Crops (1974-1979).

HANRAHAN, ROBERT JOSEPH, Ph.D. (University of Wisconsin)
Professor of Chemistry (1958-1971).

HANSEN, ART, Ph.D. (Cornell University)
Assistant Professor of Anthropology (1975-1975).

HANSEN, ELMER CARL, Ph.D. (Iowa State University)
Assistant Professor of Mechanical Engineering (1980-1980).

HANSEN, KIM A., M.B.A. (University of Florida)
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HARDER, JAYNE CRANE, Ph.D. (University of Florida)
*Professor of Linguistics and Director of the English Language Institute (1954-1974).**

HARDMAN-DE-BAUTISTA, M.J., Ph.D. (Stanford University)
Professor of Anthropology and Linguistics (1968-1972).

HARDY, JOHN WILLIAM, Ph.D. (University of Kansas)
Curator of Ornithology, Florida State Museum, and Joint Professor of Zoology and Latin American Studies (1973-1973).

HARGROVE, DON DARRELL, Ph.D. (University of Florida)
Associate Professor, Animal Science (1973-1978).

HARING, ELLEN S., Ph.D. (Radcliffe College)
Professor of Philosophy (1972-1972).

HARLAN, WILLIAM EDWARD, M.A.E. (University of Florida)
Associate Professor of Physical Education (1949-1979).

HARMAN, ELOISE M., M.D. (Johns Hopkins University)
Associate Professor of Medicine (1976-1980).

HARMS, ROBERT HENRY, Ph.D. (Texas A&M University)
Professor and Chairman, Poultry Science (1957-1963).

HARPER, HELEN E., M.S.N. (Wayne State University)
Assistant Professor, College of Nursing/JHEP (1980-1981).

HARRER, GUSTAVE ADOLPHUS, Ph.D. (University of North Carolina)
Director of Libraries (1968-1968).

HARRIS, BARNEY, JR., Ph.D. (Oklahoma State University)
Professor, Dairy Science (1963-1974).

HARRIS, O. LEE. Ph.D. (University of Michigan)
Research Scientist, Coastal and Oceanographic Engineering (1980-1980).

HARRIS, DEBBIE, B.A. (University of Florida)
University School Provisional Instructor, P.K. Yonge (1981-1981).

HARRIS, FAYE G., Ed.D. (University of Florida)
Professor, College of Nursing (1975-1980).

HARRIS, JAMES D., M.D. (University of Mississippi)
Professor of Medicine and Chief, VA Pulmonary (1973-1981).

HARRIS, LAWRENCE DEAN, Ph.D. (Michigan State University)
Associate Professor, Forest Resources and Conservation (1972-1979).

HARRIS, MARVIN, Ph.D. (Columbia University)
Graduate Research Professor of Anthropology (1980-1980).

HARRIS, MICHAEL R., M.B.A., C.P.A (University of Florida)
Director of Budget and Analysis (1971-1981)

HARRIS, TOM V., M.B.A. (University of Florida)
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HARRISON, DALTON SIDNEY, M.S.A. (University of Florida)
Professor, Agricultural Engineering (1953-1968).

HARRISON, MARY NALL, M.S. (Texas A&M University)
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HART, DAVID CHARLES WILLIAM, Ph.D. (University of California at Berkeley)
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HARRISON, WILLARD L., M.S. (University of Florida)
Director of Pharmacy Services, Shands Teaching Hospital and Clinics, Inc., (1976-1976).

HART, JACQUELYN D., E.D.S. (University of Florida)
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JONES, OTIS P., JR., B.S. (Florida State University)
Director, Auxiliary Services, (1967-1970).

JONES, WILLIAM MAURICE, Ph.D. (University of Southern California)
Professor of Chemistry (1956-1965).

JORDAN, VIRGINIA GOODELL, M Ed. (University of Florida)
Assistant Professor of Medical Technology (1967-1967).

JUDD, WALTER STEPHEN, Ph.D. (Harvard University)
Assistant Professor of Botany, Arts and Sciences (1978-1979).

JUERGENSMEYER, JULIAN C., J.D. (Duke University)
Professor of Law (1972-1972)..

JULIN, JOSEPH R., J.D. (Northwestern University)
Professor and Dean Emeritus (1971-1980).

JUSTICE, DONALD, Ph.D. (University of Iowa)
Professor of English (1982-1982).

KADZIELAWA, KRZYSZTOF, M.D., Ph.D (Academy of Medicine, Warsaw)
Associate Professor of Pharmacology and Therapeutics (1976-1976).

KAGAN, KENNETH G., V.M.D. (University of Pennsylvania),
Assistant Professor, Department of Surgical Sciences, College of Veterinary Medicine (1979-1979).

KAHRS, ROBERT F., D.V.M., Ph.D. (Cornell University)
Professor and Chairman, Department of Preventive Medicine, College of Veterinary Medicine, IFAS (1977-1977).

KAISER, BARBARA M., M.Ed. (University of Florida)
University School Instructor, P.K. Yonge Laboratory School (1975-1975).

KALCH, LESTER W., M.Ag. (University of Florida)
Associate Professor, Poultry Science (1951-1968).

KALLENBACH, ERNST A., Ph.D. (McGill University)
Professor of Anatomy (1963-1981).

KALMAN, RUDOLF E., D.Sc. (Columbia University)
Graduate Research Professor of Mathematics, Electrical Engineering, Industrial and Systems Engineering, and Engineering Science (1971-1971).

KALMBACHER, ROBERT S., Ph.D. (Pennsylvania State University)
Associate Professor, Agronomy, AREC-ONA (1975-1980)

KALPINS, RUTE I., D.M.D., M.S. (Harvard University)
Assistant Professor of Orthodontics (1981-1981).

KALRA, PUSHPA S., Ph.D. (University of Delhi, India)
Associate Professor of Obstetrics and Gynecology (1971-1980).

KALRA, SATYA PAUL, Ph.D. (University of Delhi, India)
Associate Professor of Obstetrics and Gynecology (1971-1976).

KAMEN, EDWARD W., Ph.D. (Stanford University)
Professor of Electrical Engineering (1981-1981).

KANOY, DIANA K., Ed D (University of Florida)
Assistant Professor, Conferences and Institutes, Florida Extension Service (1981-1981).

KANTOWSKI, ELEANOR L., Ed D (University of Georgia)
Associate Professor of Education (1974-1979)

KANWAR, RAJESH Ph.D. (Pennsylvania State University)
Assistant Professor of Marketing (1982-1982).

KAPLAN, RICHARD F., M.D. (State University of New York)
Assistant Professor of Anesthesiology (1981-1981).

KAPPY, MICHAEL S., M.D., Ph D. (University of Wisconsin))
Associate Professor of Pediatrics (1980-1980).

KARP, GERALD C., Ph.D. (University of Washington)
Associate Professor, Microbiology and Cell Science (1971-1976).

KATOVICH, MICHAEL J., Ph.D. (University of California)
Assistant Professor of Pharmacy (1979-1979).

KATRITZKY, ALAN ROY, Sc.D. (Cambridge University)
Kenan Professor of Chemistry (1980-1980).

KATZ, MARJORIE, M.A. (University of Chicago)
Associate Director of Nursing, Shands Teaching Hospital and Clinics, Inc. (1981-1981)..

KATZ, PAUL, M.D. (Georgetown University)
Assistant Professor of Medicine (1980-1980).

KAUDE, JURI VELLO M.D. (University of Kiel)
Professor of Radiology (1971-1971).

KAUFMANN, DAVID ALLEN, Ph.D. (University of Iowa)
Professor of Professional Physical Education (1970-1981).

KAUFMANN, JOHN HENRY, Ph.D. (University of California)
Professor of Zoology (1963-1974).

KEESLING, JAMES EDGAR, Ph.D. (University of Miami)
Professor of Mathematics (1967-1975).

KEETER, AUDREY, M.N. (University of Florida)
Associate Professor, College of Nursing (1967-1978).

KEITT, ALAN S., M.D. (Harvard University)
Associate Professor of Pathology and Medicine, Head of Hematology Division (1968-1975).

KELLNER, KENNETH R., M.D., Ph.D. (SUNY-Downstate Med. Center)
Assistant Professor of Obstetrics and Gynecology (1977-1979).

KELLY, DANIEL LEO, Ed.D. (University of Florida)
Assistant Dean of the College of Liberal Arts and Sciences and Associate Professor of English (1965-1980).

KELSO, WILLIAM A., Ph.D. (University of Wisconsin)
Associate Professor of Political Science (1973-1978).

KEM, CAROL RITZEN, M.S. in L.S.
Associate Librarian Reference and Bibliography (1972-1977).

KEM, WILLIAM R., Ph.D. (University of Illinois)
Associate Professor of Basic Dental Sciences, College of Dentistry; Associate Professor of Pharmacology and Therapeutics, College of Medicine (1971-1978).

KEMAL, CEMAL, Ph.D. (University of California at Santa Barbara)
Assistant Professor of Chemistry (1980-1980).

KEMKER, FRANCIS JOSEPH, Ph.D. (University of Denver)
Associate Professor of Communicative Disorders (1977-1977).

KEMP, HAROLD WARREN, M.S. (University of Illinois)
Associate Professor of Architecture (1966-1971).

KENDALL, ROBERT L., Ph.D. (Indiana University)
Associate Professor of Journalism and Communications (1974-1979).

KENDRICK, VINCENT, B.A. (University of Florida)
Assistant Football Coach (1980-1980).

KENNY, LAWRENCE W., Ph.D. (University of Chicago)
Associate Professor of Economics (1975-1980).

KENOYER, SUSAN T., M.A.T. (Michigan State University)
Assistant in Mathematics (1979-1979).

KENT, KURT E., Ph.D. (University of Minnesota)
Professor of Journalism and Communications (1970-1979).

KENWOOD, RUSSELL,
Assistant Director for Nursing Services Administrative Affairs, Shands Teaching Hospital and Clinics, Inc. (1980-1980).

KEPNER, JAMES L., Ph.D. (University of Iowa)
Assistant Professor of Statistics (1979-1979).

KEPNER, KARL W., Ph.D. (Ohio State University)
Professor, Food and Resource Economics (1976-1976).

KEROACK, ROGER R., Ph.D. (University of Florida)
Clinical Psychologist (1977-1977).

KERR, STRATTON HORSBURG, Ph.D. (Cornell University)
Professor, Entomology and Nematology (1953-1968).

KERRINS, KATHLEEN M., M.S.N. (University of Florida)
Instructor, College of Nursing (1981-1981).

KERRINS, R.D., JR., B.S. (University of Florida)
Captain, U.S. Army, Assistant Professor of Military Science (1979-1979).

KERSHNER, RICHARD B., Ph.D. (Stanford University)
Associate Professor of English (1971-1976).

KERSLAKE, KENNETH ALVIN, M.F.A. (University of Illinois)
Professor of Art (1956-1974).

KETROW, SANDRA M., M.S. (Indiana University)
Provisional Assistant Professor of Speech (1981-1981).

KEYES, CYNTHIA LEIGH, M.S. (George Peabody College)
University School Instructor, P.K. Yonge (1981-1981).

KHURI, ANDRE I., Ph.D. (Virginia Polytechnic Institute & State University)
Assistant Professor of Statistics (1976-1976).

KIDDER, GERALD, Ph.D. (Oklahoma State University)
Associate Professor, Soil Science (1975-1980).

KIEL, KRISTY, M.S.N. (University of Florida)
Instructor, College of Nursing (1981-1981).

KIKER, CLYDE F., Ph.D. (University of Florida)
Associate Professor, Food and Resource Economics (1966-1977).

KILBERG, MICHAEL S., Ph.D. (University of South Dakota)
Assistant Professor of Biochemistry and Molecular Biology (1980-1980).

KILMER, RICHARD L., Ph.D. (Ohio State University)
Assistant Professor, Food and Resource Economics (1977-1977).

KILPATRICK, KERRY E., Ph.D. (University of Michigan)
Professor of Community Health and Family Medicine and Professor of Industrial and Systems Engineering; Director, Health Systems Research, Health and Hospital Administration, JHMHC (1970-1978).

KILTIE, RICHARD ALAN, Ph.D. (Princeton University)
Assistant Professor of Zoology (1981-1981).

KIMBERLIN, CAROLE LYNN, Ph.D. (University of Nebraska)
Associate Professor of Pharmacy Administration (1980-1980).

KIMBROUGH, JAMES WILLIAM, Ph.D. (Cornell University)
Professor of Botany, Arts and Sciences (1964-1976).

KIMBROUGH, RALPH BRADLEY, Ed.D. (University of Tennessee)
Professor of Education (1958-1964).

KINCHELOE, JOHN E., D.M.D. (University of Louisville)
Assistant Professor of Community Dentistry (1981-1981).

KINES, JOSEPH, M.S. (Jacksonville State University)
Assistant Football Coach (1978-1978).

KING, ANN HUFFMAN, M.S. (Florida State University)
Assistant Librarian, IFAS Library (1966-1966).

KING, ARTHUR D., Ph.D. (Florida State University)
Associate Professor of Dental Education (1970-1975).

KING, CHARLES E. JR., M.D. (Bowman Gary)
Assistant Professor of Medicine, VAMC (1977-1977).

KING, FRED E., M.S. (Indiana University)
Director for Housing Personnel, Housing (1951-1977).

KING, F.W., Ph.D. (University of Miami)
Director, Florida State Museum and Professor of Zoology; Joint Professor of Zoology; Affiliate Professor of Latin American Studies and School of Forest Resources and Conservation (1979-1979).

KING, GREGORY J., D.M.D., D.M.Sc. (Harvard University)
Associate Professor and Acting Chairman of Orthodontics (1975-1981).

KING, HAROLD L., B.S. Adv. (University of Florida)
Assistant Bookstore Manager (1959-1973).

KING, ROBERT L., Ph.D. (Johns Hopkins University)
Associate Professor of Neuroscience (1974-1977).

KING, ROY W., Ph.D. (Cambridge University)
Associate in Chemistry (1969-1970).

KING, SANDRA D., M.Ed. (University of Florida)
Assistant in Resident Instruction Administration, IFAS (1979-1979).

KINLOCK, ROBERT A., Ph.D. (University of California, Davis)
Associate Professor, Agronomy, AREC-Jay (1968-1974).

KINZER, JOHN M., M.A. (George Washington University)
Assistant to the Vice President for Student Affairs (1971-1971).

KINZER, SUZANNE M., Ed.D. (Rochester University)
Associate Professor of Education (1970-1975).

KINZEY, BERTRAM YORK, JR., M.S.A.E. (Virginia Polytechnic Institute)
Professor of Architecture (1959-1965).

KIRK, JAMES R., Ph.D. (Michigan State University)
Professor and Chairman, Food Science and Human Nutrition (1978-1978).

KIRKPATRICK, MARTIN SMITH, M.A. (University of Florida)
Professor of English (1956-1975).

KIRMSE, DALE WILLIAM, Ph.D. (Iowa State University)
*Associate Professor of Chemical Engineering (1964-1978).**

KISKO, THOMAS M., M.E. (University of Florida)
Assistant in Engineering of Industrial and Systems Engineering (1978-1980).

KITCHENS, CRAIG S., M.D. (University of Florida)
Associate Professor of Medicine, VAMC (1975-1980).

KITE, JUDY F., B.A. (University of Florida)
Assistant to the Dean, Research Administration, IFAS (1980-1980)

KITTS, JOHN STEWART, M.M. (Butler University)
Professor of Music (1965-1978).

KLEIN, PAUL A., Ph.D. (University of Florida)
Associate Professor of Pathology (1969-1974).

KLINE, WILLIAM E., Ed.D. (University of Denver)
University Counseling Psychologist (1965-1969).

KNAPP, JOSEPH L., Ph.D. (Mississippi State University)
Associate Professor, Entomology and Nematology (1977-1977).

KNAUF, DANIEL G., M.D. (Northwestern University)
Associate Professor of Surgery, Thoracic and Cardiovascular Surgery (1978-1981).

KNAUFT, DAVID A , Ph.D. (Cornell University)
Assistant Professor, Agronomy (1978-1978).

KNECHEL, W. ROBERT, Ph.D. (University of North Carolina)
Assistant Professor of Accounting (1981-1981).

KNIGHT, JAMES W., Ed.D. (University of Georgia)
Dean, Academic Affairs for Continuing Education (1973-1978).

KNIGHT, JOHN, PA-C (Emory University)
Physician's Assistant in Community Health and Family Medicine (1980-1981).

KNISELEY, SHERMAN PHILIP, Ph.D (University of North Carolina)
Professor of Humanities (1964-1977).

KNOWLES, LOIS NINA, Ph.D (Laurence University)
Professor, College of Nursing (1956-1973).

KOBURGER, JOHN ALFRED, Ph.D (North Carolina State University)
Professor, Food Science and Human Nutrition (1969-1978).

KOCH, KAREN ELAINE, Ph.D. (University of Iowa)
Assistant Professor, Fruit Crops (1981-1981).

KOEHLER, PHILLIP G., Ph.D. (Cornell University)
Associate Professor, Entomology and Nematology (1975-1979).

KOEPKE, GARY E., B.S. (University of Cincinnati)
Associate Director, Division of Planning and Analysis (1973-1980).

KOGER, MARVIN, Ph.D. (University of Missouri)
Professor, Animal Science (1951-1951).

KOHN, PETER H., Ph.D. (Boston University)
Assistant Professor of Pediatrics (1980-1980).

KOLARIK, J. MILAN, Ph.D. (University of Pittsburgh)
University Counseling Psychologist, University Counseling Center; Associate Professor of Psychology (1956-1974).

KOLLIAS, GEORGE V., JR., D.V.M. (University of Missouri)
Assistant Professor, Division of Lab Animal/Wildlife Medicine, Department of Special Clinical Sciences (1981-1981).

KOLTS, BRYON E., M.D. (University of Rochester)
Associate Professor of Medicine (1972-1977).

KOO, ROBERT CHUNG JEN, Ph.D. (University of Florida)
Professor, Fruit Crops, AREC-Lake Alfred, (1953-1969).

KOOPMAN, BEN L., Ph.D. (University of California)
Assistant Professor of Environmental Engineering Sciences (1980-1980).

KORAN, JOHN JOSEPH, JR., Ph.D. (Stanford University)
Professor of Education (1971-1974).

KORAN, MARY LOU, Ph.D. (Stanford University)
Professor of Education (1973-1976).

KOSCH, PHILIP C., D.V.M. (Ohio State University), Ph.D. (University of California at Davis)
Associate Professor, Department of Metabolism, College of Veterinary Medicine (1979-1979).

KOSTEWICZ, STEPHEN R., Ph.D. (Ohio State University)
Associate Professor, Vegetable Crops (1972-1978).

KOTEY, PAUL A., Ph.D. (University of Wisconsin)
Assistant Dean for Graduate Studies and Associate Professor of Linguistics and Humanities (1972-1981).

KOVALIK, GUSTAVE THOMAS, M.A. (University of Denver)
Associate Librarian, IFAS Library (1972-1977).

KOZEL, CLAIRE, M.A. (University of Florida)
University School Instructor, P.K. Yonge Laboratory School (1979-1980).

KRAFT, HELGA W., Ph.D. (University of California, Berkeley)
Associate Professor of German (1979-1979).

KRAFT, JOHN, Ph.D. (University of Pittsburgh)
Professor of Finance, Insurance and Real Estate; Associate Dean, College of Business Administration (1980-1981).

KRAMER, BARNETT S., M.D. (University of Maryland)
Assistant Professor of Medicine (1978-1978).

KRAMER JOHN L., Ph.D. (University of Michigan)
Associate Professor of Accounting (1979-1979).

KRAMER, SANDRA L., Ph.D. (University of Texas)
Assistant Professor of Accounting (1979-1979).

KRAMER, SOL, Ph.D. (University of Illinois)
Professor of Ethology (1964-1975).

KRAMER, WAYNE L., Ph.D. (University of California)
Associate in Veterinary Medicine, Department of Preventive Medicine, College of Veterinary Medicine, IFAS (1979-1979).

KREMGOLD, DAVID ALAN, M.F.A. (University of Iowa)
Assistant Professor of Art (1972-1977).

KRETSCHMER, ALBERT EMIL, JR., Ph.D. (Rutgers University)
Professor, Agronomy, AREC-Ft. Pierce (1952-1966).

KRICOS, PATRICIA B., Ph.D. (Ohio State University)
Associate Professor of Speech (1981-1981).

KRISCHER, JEFFREY P., Ph.D. (Harvard University)
Associate Professor of Anesthesiology and Industrial and Systems Engineering (1977-1977).

KROUGH, SUZANNE F., Ph.D. (University of Oregon)
Assistant Professor of Education (1979-1979).

KRUMM, ROGER VINCENT, M.A.
Librarian in Charge of Engineering and Physical Sciences Library (1951-1970).

KUCHAREK, THOMAS ALBERT, Ph.D. (University of Minnesota)
Professor, Plant Pathology (1970-1981).

KULDAU, JOHN M., M.D. (Western Reserve University)
Associate Professor of Psychiatry and Director, Residency Training Program and Program in Social and Community Psychiatry (1975-1979).

KUMAR, AMARENDHRA M., B.V.Sc. (University of Agricultural Science, Bangalore, India), Ph.D. (University of Florida)
Assistant Professor, Department of Metabolism, Veterinary Medicine (1979-1981)

KUMAR, PRADEEP, Ph.D (University of California at San Diego)
Assistant Professor of Physics (1979-1980).

KUNDU, SUKHAMAY, Ph.D (University of California at Berkeley)
Associate Professor of Computer and Information Sciences, College of Engineering (1981-1981)

KUNKLE, GAIL A., D.V.M. (Ohio State)
Assistant Professor, Department of Medical Sciences, College of Veterinary Medicine (1980-1980).

KUNKLE, WILLIAM ELMER, Ph.D (Ohio State University)
Assistant Professor, Animal Science (1989-1980).

KURTZ, JAMES L., M.S (University of California at Los Angeles)
Associate Engineer in Electrical Engineering (1979-1979).

KURZWEG, ULRICH HERMANN, Ph.D. (Princeton University)
Professor of Engineering Sciences (1968-1976).

KUSHNER, DAVID Z., Ph.D. (University of Michigan)
Professor of Music (1969-1969).

KUTSCHE, LYNN M., M.D. (University of Michigan)
Assistant Professor of Pediatrics (1981-1981).

LA GRECA, ANTHONY J., Ph.D. (Ohio State Univerity)
Director, Urban and Regional Research Center; Associate Professor of Sociology (1973-1977).

LABISKY, RONALD FL, Ph.D. (University of Wisconsin)
Professor, Forest Resources and Conservation (1976-1976).

LADO, ERNEST M., D.D.S. (Georgetown University)
Instructor of Oral Medicine (1981-1981).

LAFFERTY, GERALD F., Ph.D (University of Utah)
Associate Professor and Chairman of Health Education; Chairman, Department of Health Education and Safety (1980-1980).

LAIPIS, PHILIP J., Ph.D. (Stanford University)
Associate Professor of Biochemistry and Molecular Biology, College of Medicine (1974-1980).

LAITINEN, HERBERT AUGUST, Ph.D. (University of Minnesota)
Graduate Research Professor of Chemistry and Environmental Engineering (1974-1979)

LAM, HERMAN, Ph.D. (University of Florida)
Assistant Professor of Electrical Engineering (1980-1980).

LAMBERT, ROY E., Ph.D. (University of Illinois)
Associate Professor of Humanities (1959-1963).

LAMME, ARY JOHANNES, Ph.D. (Syracuse University)
Associate Professor of Geography and Social Sciences (1974-1978).

LAMME, LINDA LEONARD, Ph.D. (Syracuse University)
Associate Professor of Education (1974-1979).

LANCIANI, CARMINE A., Ph.D. (Cornell University)
Professor of Zoology (1968-1980).

LAND, MARTIN F., D.D. S. (St. Univ of Utrecht, Netherlands)
Assistant Professor of Occlusion and Fixed Prosthodontics (1978-1978).

LANDSMAN, TED L., Ph.D. (Syracuse University)
Professor of Psychology and Counselor Education (1958-1958).

LANE, THOMAS J., D.V.M. (Cornell University)
Assistant Professor, Preventive Medicine, College of Veterinary Medicine, IFAS (1980-1980).

LANG, PETER J., Ph.D. (University of Buffalo)
Graduate Research Professor in Clinical Psychology (1981-1981).

LANGFORD, ALLIE GERALD, Ed.D. (Columbia University)
*Associate Professor of English, Adviser (1953-1966).**

LANGFORD, R. G., M.M. (North Texas State)
Associate Professor of Music (1971-1977).

LANGHAM, MAX RAYMOND, Ph.D. (University of Illinois)
*Professor, Food and Resource Economics (1962-1970).**

LANGWORTHY, MARGARET, M.S. (University of Vermont)
Associate in Natural Sciences, Florida State Museum (1979-1979).

LANZA-KADUCE, LONN, Ph.D. (University of Iowa)
Assistant Professor of Sociology and Criminal Justice (1980-1980).

LANZILLOTTI, ROBERT FRANKLIN, Ph.D. (University of California at Berkeley)
Professor of Economics and Dean of College of Business Administration and School of Accounting (1969-1969).

LAPRE, K.M. M.B.A. (Providence College)
Systems Coordinator (1981-1981).

LARCHE, THELMA B., M.A. (Florida State University)
Associate University Librarian, P.K. Yonge Laboratory School (1963-1978).

LARKIN, LYNN HAYDOCK, Ph D. (University of Colorado)
Professor of Anatomy (1968-1979).

LARSEN, JANET J., Ed.D (University of Florida)
Professor of Education (1969-1981).

LARSEN, ROLF E., D V.M., Ph D (University of Minnesota)
Assistant Professor, Department of Reproduction, College of Veterinary Medicine (1979-1979).

LARSON, JEAN A., Ph.D. (Dartmouth)
Associate Professor of Mathematics (1974-1978).

LASKIN, JEFFREY L., D D.S. (Indiana University), M.S. (Ohio State University)
Assistant Professor of Oral and Maxillofacial Surgery (1976-1976).

LASIECKA, IRENA, Ph.D. (University of Warsaw)
Associate Professor of Mathematics (1980-1981).

LASLEY, MARION MURRAY, Ph.D (Columbia University)
Associate Professor of Spanish (1956-1956).

LASSITER, WILLIAM B., M D (University of Florida)
Assistant Professor of Community Health and Family Medicine (1979-1979).

LATOUR, MARINUS HENRY, M.S.E. (University of Florida)
Associate Professor of Electrical Engineering (1946-1950).

LAVELLE, BRENDA S., Ph.D. (New School of Social Research)
Assistant Curator of Anthropology, Florida State Museum (1979-1980).

LAWLESS, ROBERT D., Ph.D (New School of Social Research)
Associate Professor of Anthropology (1976-1978).

LAWMAN, MICHAEL, J.P., Ph.D. (University of Surrey)
Assistant Professor, Preventive Medicine, College of Veterinary Medicine, IFAS (1981-1981).

LAWRENCE, FREDERIC S., M.A.T. (Jacksonville University)
University School Instructor, P.K. Yonge Laboratory School (1970-1972).

LAWRENCE, GORDAN D., Ph.D (Claremont Graduate School)
Professor of Education (1969-1981)

LAWRENCE, PAULINE, Ph.D. (University of Florida)
Associate Professor of Zoology (1976-1981)

LAZIN, MICHAEL B., Ph.D. (Cornell University)
Assistant Professor, Vegetable Crops (1980-1980)

LEACOCK, ROBERT JAY, Ph.D (University of Florida)
Associate Professor of Astronomy and Associate Chairman (1971-1980).

LEADON, BERNARD MATHEW, Ph D. (University of Minnesota)
Professor of Engineering Sciences (1964-1964).

LEAHY, THOMAS M., M A. (University of Florida)
Associate in Editorial, IFAS Editorial (1974-1979).

LEAVENWORTH, RICHARD S., Ph.D (Stanford University)
Professor of Industrial and Systems Engineering (1966-1977).

LEAVEY JR., JOHN P., Ph.D. (Emory University)
Assistant Professor of English (1978-1978).

LEBLANC, MICHELLE M., D.V.M (Michigan State University)
Instructor, Department of Reproduction, College of Veterinary Medicine (1980-1980).

LEBLANC, PAUL A., Ph.D (Cornell University)
Assistant Research Scientist, Division of Comparative Pathology, College of Veterinary Medicine (1981-1981).

LEBO, GEORGE R., Ph.D (University of Florida)
Associate Professor of Astronomy (1960-1977).

LEBOWITZ, MARTIN S., D D.S., M.S. (Indiana University)
Chairman and Assistant Professor of Oral and Maxillofacial Surgery (1975-1978).

LEE, HONG H., Ph D. (Purdue University)
Associate Professor of Chemical Engineering (1977-1980).

LEE, MELDA H., B.A. (Brenau College)
Coordinator of Development, IFAS (1981-1981).

LEE, PERMILLAS ARTEN, JR., M A (University of Chapel Hill)
Associate Professor of Physical Education (1948-1979).

LEE, RICHARD F., Ph.D. (Kansas State University)
Assistant Professor, Plant Pathology, AREC-Lake Alfred (1978-1979).

LEE, ROBERT WAYNE, Ph D. (New Mexico State University)
Assistant Professor, Animal Science (1981-1981).

LEGG, KEITH R., Ph.D. (University of California)
*Professor of Political Science (1966-1975).**

LEGG, SUE M., Ph D (University of Florida)
Associate in Research, Measurement and Evaluation (1979-1981).

LEGRAND, FERDINAND, M.S. (College for Sugar Chemistry and Technology, Deventer, Holland)
Associate Professor, Agronomy (1958-1972).

LEHMANN, LUCILE R., M.S (Florida State University)
Assistant Research Scientist in Coastal and Oceanographic Engineering (1974-1976).

LEHNER, RICHARD A., M.S.
Associate in Broadcasting in Journalism and Communications and Acting General Manager, WUFT-TV/FM (1977-1981).

LEIBEE, GARY LEROY, Ph D. (University of Kentucky)
Assistant Professor, Entomology and Nematology, AREC-Sanfrod (1979-1979).

LEIBMAN, KENNETH C., Ph.D (New York University)
Professor of Pharmacology and Therapeutics (1956-1968)

LEILICH, ROY EDGAR, Re.D. (University of Indiana)
Professor of Recreation (1952-1967)

LEMARCHAND, RENE, Ph.D (Univ. of California at Los Angeles)
*Professor of Political Science (1962-1971) **

LEMBERGER, MAX AUGUST, M.S. (University of Wisconsin)
Associate Professor of Pharmacy: Assistant Dean, College of Pharmacy (1971-1971).

LEO, A. LEWIS, D.M.D. (University of Alabama)
Professor of Community Dentistry; Assistant Dean for Clinical Affairs (1973-1979)

LEONARD, CHRISTIANA M., Ph D. (Massachusetts Institute of Technology)
Associate Professor of Neuroscience (1976-1976).

LEONARD, LOUISE FOWLER, M.A. (University of Denver)
Assistant Librarian, Catalog Department (1978-1978).

LERCH, HAROLD ALEXANDER, Ph.D. (Ohio State University)
Professor of Professional Physical Education (1968-1978).

LESLIE, GERALD R., Ph.D. (Ohio State University)
Professor of Sociology (1967-1967).

LESOURD, MARGARET S., M.L.S. (Syracuse University)
Associate Librarian, Reference and Bibliography (1978-1978).

LEVIN, ALAN C., B.D.S. (University of Witwatersrand)
Assistant Professor of Removable Prosthodontics, (1978-1978).

LEVIN, SIDNEY, M.D. (Baylor University)
Professor of Pediatrics and Chairman, Department of Pediatrics (JHEP) (1970-1971).

LEVY, C. MICHAEL, Ph.D. (University of Wisconsin)
Professor of Psychology (1964-1975).

LEVY, HAIM, Ph.D. (The Hebrew University of Jerusalem)
Florida Federal Professor of Finance (1981-1981).

LEWIS, A.L. JR., Ph.D. (Duke University)
Professor of Humanities and Philosophy (1957-1966).

LEWIS, ARTHUR J., Ed.D. (Columbia University)
Professor of Education (1970-1970).

LEWIS, CHARLES W. JR., M.D. (Duke University)
Associate Professor and JHEP Chairman, Department of Urology JHEP (1973-1978).

LEWIS, DAVID E., Ed.D. (Duke University)
Associate Professor of Community Health and Family Medicine; Director, P.A. Program (1972-1980).

LEWIS, JEFFREY, J.D. (Duke University)
Professor of Law (1972-1977).

LI, SHENG-SAN, Ph.D. (Rice University)
Professor of Electrical Engineering (1968-1978).

LIEB, SANDI, Ph.D. (University of Kentucky)
Associate Professor, Animal Science (1974-1979).

LIEBERMAN, LESLIE SUE, Ph.D. (University of Connecticut)
Associate Professor of Anthropology (1976-1981).

LIEBHAUSER, KATHRYN A., B.A. (University of Florida)
Continuing Education Coordinator (1975-1979).

LILEY, THOMAS LAUVERN, M.M. (Catholic University of America)
Assistant Professor of Music (1981-1981).

LINCOLN, EDWARD PALMER, Ph.D. (University of Arizona)
Assistant Professor, Agricultural Engineering (1975-1979)

LIND, STEPHEN ANDERSON, LL.M. (New York University)
*Professor of Law (1970-1974).**

LINDGREN, ERIK RUNE, Tekn.Dr. (Royal Inst. of Tech., Sweden)
*Professor of Engineering Sciences (1965-1965).**

LINDGREN, ROBERT R., J.D. (University of Florida)
Campaign Coordinator, College of Law (1980-1980).

LINDHOLM, FRED ARTHUR, Ph.D. (University of Arizona)
Professor of Electrical Engineering (1966-1966).

LINDQUIST, ROBERT CARL, Ph.D. (University of Utah)
Assistant Professor of Geology (1959-1981).

LINSCOTT, LESTER L., M.L.A. (Kansas State University)
Assistant Professor of Landscape Architecture (1979-1979).

LISCA, PETER, Ph.D (University of Wisconsin)
*Professor of English (1960-1970).**

LISLE, FORREST, JR., M.Arch. (Cornell University)
Associate Professor of Architecture (1970-1975).

LITTLE, JOSEPH WALLACE, J.D. (University of Michigan)
Professor of Law (1967-1971).

LITTMAN, MAYER, M.S. (University of Southern Mississippi)
Colonel, U.S. Air Force, Professor of Aerospace Studies (1979-1979).

LITTELL, RAMON, Ph.D. (Oklahoma State University)
Professor, Statistics, IFAS (1973-1981).

LITZ, RICHARD EARLE, Ph.D. (University of Nottingham)
Assistant Professor, Fruit Crops, AREC-Homestead (1977-1977).

LITZKOW, LINDA R., M.S. (Florida State University)
University School Instructor, P. K. Yonge (1981-1981).

LLORENS, LELA A., Ph.D. (Walden University)
Professor and Chairman of Occupational Therapy (1971-1976).

LLOYD, JAMES E., Ph.D. (Cornell University)
Professor, Entomology and Nematology (1966-1974).

LOCASCIO, SALVADORE J., Ph.D. (Purdue University)
Professor, Vegetable Crops (1959-1969).

LOCKS, DAVID M., Ph.D. (University of Illinois)
Associate Professor of English (1977-1980).

LOCKHART, MADELYN, Ph.D. (Ohio State University)
Associate Dean for Graduate Studies and Professor of Economics (1960-1981).

LOEB, IRVING
Systems Coordinator (1969-1975).

LOESCH, LARRY CHARLES, Ph.D. (Kent State University)
Professor of Education (1973-1980).

LOFTON, JOSEPH E., M.D. (University of Alabama)
Professor of Anatomy and Assistant Dean for Preprofessional Education 81980-1980).

LOGGINS, PHILLIP EDWARDS, M.S. (Oklahoma State University)
Professor, Animal Science (1953-1974).

LOKKEN, LAWRENCE ALBERT, J.D. (University of Minnesota)
*Professor of Law (1974-1977).**

LOMBARD, CHRISTOPHE W., D.M.V. (University of Zurich)
Assistant Professor, Department of Medical Sciences, College of Veterinary Medicine (1978-1978).

LOMBARDINO, LINDA JEAN. Ph.D. (Ohio State University)
Assistant Professor of Speech (1978-1978).

LONG, GARY, Ph.D. (Texas A&M)
Assistant Dean for Graduate Studies and Associate Professor of Civil Engineering (1977-1981).

LONG, ROBERT L., Ph.D. (University of Illinois)
Assistant Professor of Mathematics (1972-1972).

LONGINO, SARAH J., M.A. (Wake Forest University)
Assistant in Immunology, Department of Medical Sciences, College of Veterinary Medicine (1978-1978).

LONGLEY, SELDEN, III, M.D. (Vanderbilt University)
Associate Professor of Medicine, VAMC (1975-1980).

LONGSTRETH, CATHERINE ARCHIBAL, Ed.D., (University of Miami)
Director of Faculty Relations and Special Assistant to the President and Lecturer (1974-1978).

LONGSTRETH, JAMES W., Ed.D. (University of Florida)
Associate Professor of Education (1977-1977).

LONGUET-HIGGINS, MICHAEL S., Ph.D. (Cambridge University)
Professor of Engineering Sciences (1978-1978).

LOPEZ, LARRY M., Pharm. D. (University of Florida)
Assistant Professor of Pharmacy (1979-1979).

LOPEZ, TONI ANN, Ph.D. (Florida State University)
Assistant Professor of English (1978-1978).

LOSANO, WAYNE A., Ph.D. (Rensselaer Polytechnic Institute)
Associate Professor of English (1975-1979).

LOSCHKE, DAVID C., (Washington State University)
Assistant Professor, Plant Pathology (1981-1981).

LOTZ, PRESTON R., M.D. (Hahnemann University)
Assistant Professor of Radiology/VAMC (1979-1979).

LOTZKAR, STANLEY, D.D.S. (New York University), M.P.H. (University of Pittsburgh)
Professor and Chairman of Community Dentistry (1971-1977).

LOUGHLIN, BARBARA A., MA.S. (University of Arizona)
University School Instructor P. K. Yonge Laboratory School (1979-1979).

LOUGHLIN, GERALD M., M.D. (University of Rochester)
Assistant Professor of Pediatrics (1977-1977).

LOW, SAMUEL B., D.D.S., M.S. (University of Texas)
Associate Professor of Periodontics (1975-1980).

LOWDIN, PER-OLOV, Ph.D. (Uppsala)
Graduate Research Professor of Chemistry and Physics (1960-1960).

LOWENSTEIN, RALPH L., Ph.D. (University of Missouri)
Dean and Professor of Journalism and Communications (1976-1976).

LOWRY, BILLIE H., M.A. (University of Florida)
Assistant in Editorial, IFAS Editorial (1978-1978).

LOYD, R. THOMAS, Ph.D. (University of Virginia)
Assistant Professor of German (1979-1979).

LOZIER, TIMOTHY ROBERT, M.L.S. (University of California)
Assistant Librarian, Catalog Department (1976-1976).

LU, SUNG YUN, Ph.D. (Carnegie Institute of Technology)
*Associate Professor of Engineering Sciences (1959-1963).**

LUCANSKY, TERRY W., Ph.D. (Duke University)
Associate Professor of Botany, Arts and Sciences (1971-1976).

LUEHR, CHARLES POLING, Ph.D. (University of California)
Associate Professor of Mathematics (1968-1975).

LUKE, HERBERT HODGES, Ph.D. (Louisiana State University)
Professor, Plant Pathology, USDA (1955-1955).

LUNDEEN, HARRY C., D.D.S. (University of Minnesota)
Chairman and Professor of Occlusion and Fixed Prosthodontics (1971-1971).

LUNDGREN, DALE ALLEN, Ph.D. (University of Minnesota)
Professor of Environmental Engineering Sciences (1972-1976).

LUTRICK, MONROE CORNEALOUS, Ph.D. (Ohio State University)
Professor, Soil Science, AREC-Jay (1956-1977).

LUTTGE, WILLIAM G., Ph.D. (University of California)
Associate Professor of Neuroscience and Acting Chairman (1971-1978).

LYBAS, JOHN MICHAEL, Ph.D. (University of Illinois)
Assistant Professor of Civil Engineering (1977-1977).

LYNCH, ANN, Ed.D. (University of Florida)
University Counseling Psychologist (1968-1968).

LYNCH, JOHN G., Ph.D. (University of Illinois)
Assistant Professor of Marketing (1979-1979).

LYNNE, GARY DEAN, Ph.D. (Oregon State University)
Associate Professor, Food and Resource Economics (1974-1979).

LYONS, HENRY R., M.D. (Georgetown University)
Associate Professor of Psychiatry, and Associate Chief of Staff for Education, VAMC (1967-1978).

LYRENE, PAUL MAGNUS, Ph.D. (University of Wisconsin)
Associate Professor, Fruit Crops (1974-1979).

MACAULAY, NEILL WEBSTER, JR., Ph.D. (University of Texas)
Professor of History (1964-1975).

MACDONALD, W. D., S.J.D. (University of Michigan)
Professor of Law (1948-1951).

MACE, ARNETT C. JR., Ph.D. (University of Arizona)
Professor and Director, School of Forest Resources and Conservation (1978-1978).

MACFADDEN, BRUCE J., Ph.D. (Columbia)
Assistant Curator, Vertebrate Paleontology, Florida State Museum, and Joint Assistant Professor of Zoology (1977-1977).

MACKENZIE, RICHARD S., D.D.S. (University of Michigan), Ph.D. (University of Pittsburgh)
Professor and Chairman of Dental Education (1969-1974).

MACLAREN, NOEL K., M.B., Ch.B. (Univ. Otago-New Zealand)
Professor of Pathology (1978-1978).

MACPHERSON, JOHN H., D.D.S. (Ohio State University)
Assistant Professor of Removable Prosthodontics, (1978-1978).

MACQUIGG, DAVID RODGERS, Ph.D. (California Inst. of Tech.)
Assistant Professor of Electrical Engineering (1977-1977).

MADDALA, G. S., Ph.D. (University of Chicago)
Graduate Research Professor of Economics (1975-1975).

MADSEN, KIRSTEN MARIE, M.D. (University of Aarhus)
Assistant Professor of Medicine (1980-1980).

MADSEN, MARK LEEROY, M.A. (University of North Colorado)
Assistant Professor of Music (1980-1980).

MAGEE, CLARENCE H., B.S.E.E. (University of Florida)
Coordinator of Educational Media, Learning Resources and Communications, J. Hillis Miller Health Center (1964-1974).

MAGGIO, PHILLIP J., B.S. (University of Florida)
Assistant Football Coach (1980-1980).

MAGGIOTTO, MICHAEL A., Ph.D. (Indiana University)
Assistant Professor, Political Science (1976-1977).

MAGNARELLA, PAUL J., Ph.D. (Harvard University)
Professor of Anthropology (1979-1979).

MAHAN, CHARLES S., M.D. (Northwestern University)
Professor of Obstetrics and Gynecology and Head of Ambulatory Care Division (1974-1980).

MAHAN, PARKER E., D.D.S., Ph.D. (University of Rochester)
Professor and Chairman of Basic Dental Sciences (1971-1971).

MAHIG, JOSEPH, Ph.D. (Ohio State)
Professor of Mechanical Engineering (1967-1973).

MAHON, JOHN KEITH, Ph.D. (University of California at Los Angeles)
Professor of History and Holder of the Chair of American Studies (1954-1966).

MAHONEY, JAMES J. JR., M.D. (University of Florida)
Assistant Professor of Medicine (1976-1977).

MAHONEY, JOHN F., Ph.D. (Lehigh University)
Associate Professor of Industrial and Systems Engineering (1964-1966).

MAINO, VERNON C., Ph.D. (University of Rochester)
Assistant Professor of Pathology (1977-1978).

MAJOROWICZ, KAREN A., M.S.N. (University of Maryland)
Assistant Professor, College of Nursing (1981-1981).

MAJTHAY, ANTAL, Ph.D. (University of Szeged, Hungary)
Associate Professor of Management (1972-1972).

MAJTHAY, ELIZABETH, M.S. (University of Szeged, Hungary)
Assistant in Mathematics (1979-1979).

MALAGODI, EDWARD F. JR., Ph.D. (University of Miami)
Professor of Psychology (1968-1981).

MALANCHUK, PETER P., M.L.S. (Indiana University)
Librarian and Chairman, Reference and Bibliography (1980-1980).

MALASANOS, LOIS J., Ph.D. (University of Illinois)
Professor and Dean, College of Nursing (1980-1980).

MALICKSON, DAVID L., M.S. (Boston University)
Associate Professor of Journalism and Communications (1969-1977).

MALONEY, E. MAYER, M.A. (University of Florida)
Assistant Professor of Journalism and Communications (1980-1980).

MALSBARY, BRYCE A., B.S. (Eastern Connecticut State College)
Director of Personnel, Shands Teaching Hospital and Clinics, Inc. (1980-1980).

MALVERN, LAWRENCE EARL, Ph.D . (Brown University)
Professor of Engineering Sciences (1969-1969).

MALVERN, MARJORIE, Ph.D. (Michigan State University)
Associate Professor of English (1969-1975).

MANASTER, STEVEN, Ph.D. (University of Chicago)
Assistant Professor of Finance (1975-1975).

MANDELL, MARYLOU, M.S. (Florida State University)
Assistant in Research, Bureau of Economic and Business Research (1980-1980).

MANGOS, JOHN A., M.D. (Artistotelian University and Medical School, Greece)
Professor of Pediatrics and Chief of Pulmonary.

MANKOFF, DANIEL M., M.D. (University of Michigan)
Instructor of Anesthesiology (1981-1981).

MANN, ROBERT T., LL.D. (Stetson University)
*Professor of Law (1974-1974).**

MANS, RUSTY J., Ph.D. (University of Florida)
Professor of Biochemistry and Molecular Biology (1969-1969).

MANSELL, ROBERT S., Ph.D. (Iowa State University)
Professor, Soil Science (1968-1969).

MANSFIELD, JODI, M.B.A. (University of Florida)
Assistant Director of Support Services, Shands Teaching Hospital and Clinics, Inc. (1979-1981).

MAPLE, MARILYN J., M.A. (University of Florida)
Coordinator of Educational Media, Learning Resources and Communications, J. Hillis Miller Health Center (1967-1974).

MAPLES, WILLIAM R., Ph.D. (University of Texas)
Curator of Physical Anthropology, Florida State Museum and Affiliate Professor of Anthropology (1968-1980).

MARCH, ALLAN W., M.D. (Johns Hopkins University)
Assistant Professor of Community Health and Family Medicine (1977-1977).

MARCUS, ROBERT B., JR., M.D. (University of Florida)
Assistant Professor of Radiation Therapy (1979-1979).

MARCUS, ROBERT BROWN, Ed.D. (University of Florida)
Professor and Chair of Geography (1954-1979).

MARCY, JOSEPH E., Ph.D. (University of North Carolina)
Assistant Professor, Food Sciences and Human Nutrition, AREC-Lake Alfred (1979-1979).

MAREN, THOMAS H., M.D. (Johns Hopkins University)
Graduate Research Professor (1955-1979).

MARGOLIS, MAXINE LUANNA, Ph.D. (Columbia University)
Associate Professor of Anthropology (1969-1974).

MARION, WAYNE RICHARD, Ph.D. (Texas A&M University)
Associate Professor, Forest Resources and Conservation (1975-1980).

MARKEL, NORMAN N., Ph.D. (University of Chicago)
Professor of Speech, Psychology, and Anthropology (1964-1973).

MARKER, LINDA, M.A., (Kent State University)
Women's Softball Coach and Academic Adviser (1980-1980).

MARKOWITZ, HAROLD JR., Ed.D. (Teachers College, Columbia University)
Director of Correspondence Study Division of Continuing Education (1981-1981).

MARKS, GORDON S., D.D.S. (Washington University)
Assistant Professor of Community Dentistry (1978-1978).

MARKS, RONALD G., Ph.D. (University of Florida)
Associate Professor of Statistics (1974-1980).

MARLATT, ROBERT BRUCE, Ph.D. (University of Arizona)
Professor, Plant Pathology, AREC-Homestead (1964-1973).

MARLOWE, GEORGE A., Ph.D. (University of Maryland)
Professor, Vegetable Crops (1969-1969).

MARS, DONALD R., M.D. (University of Miami)
Assistant Professor of Medicine (1977-1977).

MARSHALL, H. B., JR., Ph.D. (Harvard University)
Assistant Professor of German (1978-1978).

MARSHALL, SIDNEY PAUL, Ph.D. (University of Minnesota)
Professor, Dairy Science (1942-1958).

MARSTON, ROBERT O., M.D. (Medical College of Virginia)
President of University of Florida and Professor of Medicine (1974-1974).

MARTIN, FRANK G., Ph.D. (North Carolina State University)
Associate Professor, Statistics, IFAS (1964-1964).

MARTIN, JACK W., M.S. (Massachusetts Institute of Technology)
Assistant Professor of Building Construction (1978-1978).

MARTIN, NANCY L., M.S. (Teachers College, Columbia University)
Vice President for Nursing Services, Shands Teaching Hospital and Clinics, Inc. (1980-1981).

MARTIN, ROBERT L., M.S. (University of Arkansas)
Associate Director, Physical Plant (1979-1979).

MARTIN, THOMAS E., M.S.B.C. (University of Florida)
Associate Professor of Building Construction (1964-1977).

MARTINEZ, JORGE, Ph.D. (Tulane University)
Associate Professor of Mathematics (1969-1975).

MARTSOLF, JAY DAVID, JR., Ph.D. (University of Missouri)
Professor, Fruit Crops (1979-1979).

MARYNIUK, GEORGE A., D.D.S. (University of Detroit)
Assistant Professor of Occlusion and Fixed Prosthodontics (1981-1981).

MASSEY, THOMAS, M.Ed. (University of Florida)
University School Instructor, P. K. Yonge Laboratory School (1967-1971).

MASON, ROBERT M., JR., D.V.M. (Purdue University)
Assistant Professor, Department of Preventive Medicine, College of Veterinary Medicine (1980-1980).

MATHENY, ALBERT R., M.A. (University of Tennessee)
Assistant Professor of Political Science (1978-1978).

MATHENY, ELLIS L. JR., (University of Tennessee)
Associate Professor, Entomology and Nematology (1976-1981).

MATHER, F. BEN, Ph.D., (University of California, Davis)
Associate Professor, Poultry Science (1979-1979).

MATHIAS, DAVID E., B.A., J.D. (University of Florida)
Hospital Attorney, Shands Teaching Hospital and Clinics Inc. (1980-1980).

MATHIAS, JOHN R., M.D. (Temple University)
Professor, Food and Resource Economics (1969-1979).

MATHUR, DINESHWAR DAYAL, Ph.D. (University of Georgia)
Assistant Professor, Ornamental Horticulture, AREC-Apopka (1979-1979).

MATTHEW, GARY KREIDER, Ph.D. (University of Florida)
Associate Professor of Mechanical Engineering (1980-1980).

MATTHEWS, RICHARD FINIS, Ph.D. (Cornell University)
Professor, Food Science and Human Nutrition (1965-1972).

MATURO, FRANK J.S., JR., Ph.D. (Duke University)
Professor of Zoology; Director of University of Florida Marine Laboratory (1958-1970).

MAUDERLI, WALTER, D.SC. (University of Zurich)
Professor of Radiation Physics (1960-1965)

MAULDEN, DENNIS CHARLES, M.F.A. (University of North Carolina)
Assistant Professor of Theatre (1979-1979).

MAUN, ALICIA R., M.D. (Far Eastern University)
University Physician (1977-1977).

MAURER, RALPH G., M.D. (Yale University)
Associate Professor and Director, Child Psychiatry Inpatient Service (1980-1980).

MAURER, VIRGINIA G., J.D. (Stanford University Law School)
Assistant Professor of Business Law (1980-1980).

MAY, FRANK PIERCE, Ph.D. (University of Florida)
Professor of Chemical Engineering (1955-1969).

MAYBERRY, MAURICE E., B.S.B.A (University of Florida)
Director, Career Resource Center (1953-1953).

MAYHEW, IAN G., B.V.Sc. (Massey University, New Zealand), Ph.D (Cornell University)
Associate Professor, Department of Medical Sciences, College of Veterinary Medicine (1977-1977)

MAYNARD, DONALD N., Ph.D., (University of Massachusetts)
Professor and Chairman, Vegetable Crops (1979-1979).

MCALISTER, LYLE NELSON, Ph.D. (University of California)
Distinguished Service Professor of History (1950-1979).

MCARTHUR, WILLIAM P., Ph D. (Purdue University)
Associate Professor of Basic Dental Sciences (1981-1981).

MCCALL, GAIL ELAINE, RE.D. (Indiana University)
Associate Professor of Recreation (1973-1979).

MCCALL, PETER T., M.Ed. (University of Florida)
University School Instructor, P. K. Yonge Laboratory School (1970-1976).

MCCALL, THOMAS M., M.Agr. (University of Florida)
Assistant in Agricultural and Extension Education. (1980-1981).

MCCANN, JOSEPH E., Ph.D. (University of Pennsylvania)
Assistant Professor of Management (1981-1981).

MCCARLEY, DEAN L., M.D. (Duke University)
Chief Resident and Instructor (1981-1981).

MCCARTHY, KEVIN MICHAEL, Ph.D (University of North Carolina)
Associate Professor of English, Adviser (1969-1974).

MCCAULLEY, MARY HAWLEY, Ph.D. (Temple University)
Assistant Professor of Clinical Psychology (1964-1964).

MCCLAVE, JAMES THOMAS, Ph.D. (University of Florida)
Associate Professor (1971-1977).

MCCLOUD, DARELL EDISON, Ph.D. (Purdue University)
Professor, Agronomy and Chief of Party, International Programs (Malawi) IFAS (1948-1980).

MCCOLLOUGH, W. ANDREW, Ph.D. (University of Florida)
Associate Professor of Finance (1969-1976).

MCCONNELL, DENNIS BROOKS, Ph.D. (University of Wisconsin)
Associate Professor, Ornamental Horticulture (1970-1975).

MCCORMICK, WILLIAM C., Ph.D. (University of Wisconsin)
Associate Professor of Pharmacy (1973-1976).

MCCOY, CLAY W., Ph.D. (University of California)
Professor, Entomology and Nematology, AREC-Lake Alfred (1972-1979).

MCCOY, FRANCIS TYRONE, LL.B. (University of Florida)
Professor of Law (1955-1970).

MCCOY, RANDOLPH EDWARD, Ph.D. (Cornell University)
Professor, Plant Pathology, AREC-Ft. Lauderdale (1971-1980).

MCCOY, TERRY L., Ph.D. (University of Wisconsin)
Associate Director, Center for Latin American Studies; Associate Professor of Sociology and Political Science (1975-1978).

MCCREA, BRIAN R., Ph.D. (University of Virginia)
Associate Professor of English (1976-1981).

MCCREARY, JOHN J., Ph.D., (University of Illinois)
Assistant Professor of Environmental Engineering Sciences (1980-1980).

MCDANIEL, R. WAYNE, B.S. (University of Florida)
Director of Alumni Affairs (1978-1981).

MCDAVIS, RODERICK J., Ph.D. (University of Toledo)
Associate Professor of Education (1974-1979).

MCDONALD, CHARLES L., Ph.D. (Michigan State University)
Associate Professor of Accounting (1974-1977).

MCDONALD, NANCY F., M.S.W. (University of North Carolina)
Associate Professor of Social Work in Psychiatry (1960-1969).

MCDOWELL, LEE R., Ph.D. (Washington State University)
Associate Professor, Animal Science (1971-1977).

MCFARLANE, JAMES B., D E.S. (University of Florida)
Associate Professor of Interior Design (1958-1973).

MCGHEE, MAX B., Ph.D. (Ohio State University)
Associate Professor, Agricultural and Extension Education (1975-1980).

MCGLYNN, F. DUDLEY, Ph.D. (University of Missouri)
Professor of Basic Dental Sciences (1979-1979).

MCGRAW, SONNY, M.S. (Auburn University)
Football Administrative Assistant (1979-1979).

MCGRIFF, LEE, B.S. (University of Florida)
Assistant Football Coach (1978-1978).

MCGUIGAN, JAMES E., M.D. (St. Louis University)
Professor and Chairman, Department of Medicine and Professor of Immunology and Medical Microbiology (1969-1976).

MCGUINESS, DAVID M., Ph.D. (University of Minnesota)
Assistant Professor of History (1976-1976).

MCGUIRE, PETER M., Ph.D. (University of North Carolina)
Assistant Professor, Department of Biochemistry, College of Medicine (1975-1975).

MCGUIRE, VINCENT, Ed.D. (University of Florida)
*Professor of Education (1947-1960).**

MCKEE, JEAN M., P.A.C. (University of Florida)
Physician's Assistant (1975-1975).

MCKEE, VERNON C., Ph.D. (Iowa State University)
Director, IFAS Planning and Business Affairs, and Professor, Food and Resource Economics (1969-1969).

MCKENNA, PATRICK J., (University of Michigan)
Associate Professor of Mathematics (1978-1981).

MCKENZIE, MICHAEL W., Ph.D. (Purdue University)
Associate Professor of Pharmacy (1971-1977).

MCKNEW, APRIL M., M.Ed. (University of Florida)
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MCKNIGHT, STEPHAN ALLEN, Ph.D. (Emory University)
Associate Professor of History (1972-1977).

MCLEAN, IAN B., Ph.D. (Michigan State University)
Assistant Research Scientist, International Programs (Malawi) IFAS (1981-1981).

MCMILLAN, ROBERT THOMAS, JR., Ph.D. (Washington State University)
Associate Professor, Plant Pathology, AREC-Homestead (1967-1973).

MCMILLIN, MARVIN R., Ed.D. (University of Florida)
Associate Professor of Education and Assistant Dean, College of Education (1969-1975).

MCNAB, BRIAN KEITH, Ph.D. (University of Wisconsin)
*Professor of Zoology (1961-1971).**

MCPHERSON, DALE, B.S. (D.C. Teachers' College)
Assistant to the Dean, Extension Administration (1979-1979).

MCPHERSON, WOODROW WILSON, Ph.D. (Harvard University)
Graduate Research Professor, Food and Resource Economics (1962-1962).

MCQUOWN, O. RUTH, Ph.D. (University of Florida)
Professor of Political Science and Associate Dean, College of Liberal Arts and Sciences (1961-1974).

MCRAE, JOHN M., M. Arch. (Rice University)
Associate Dean and Professor of Architecture (1967-1980).

MCREYNOLDS, JOHN W., M.D. (University of Oklahoma)
Assistant Professor of Pediatrics (1980-1980).

MCSORLEY, ROBERT TERENCE, Ph.D. (Purdue University)
Assistant Professor, Entomology and Nematology, AREC-Homestead (1978-1978).

MEAD, GREGORY, B.S. (University of Florida)
University School Provisional Instructor, P. K. Yonge (1978-1981).

MEALIEA, WALLACE L., M.A., Ph.D. (University of Missouri)
Professor of Basic Dental Sciences (1975-1978).

MEDINA, JOSE E., D.D.S. (University of Maryland)
Professor of Operative Dentistry and Assistant Vice President for Facilities Planning and Operations, J. Hillis Miller Health Center (1967-1976).

MEEK, PHYLLIS M., Ed.D. (University of Florida)
Associate Dean for Student Services and Assistant Professor of Education (1966-1973).

MEHTA, ASHISH J., Ph.D. (University of Florida)
Associate Professor of Coastal and Oceanographic Engineering (1974-1980).

MEINERS, CHRISTINE R., Ph.D. (Virginia Polytechnic Institute and State University)
Associate Professor, Food Science and Human Nutrition (1981-1981).

MEHTA, JAWAHAR, M.D. (Medical College, Amritsar, India)
Associate Professor of Medicine (1976-1980).

MEHTA, PAULETTE S., M.D. (University of Louvain, Belgium)
Associate Professor of Pediatrics (1979-1981).

MELAMED, BARBARA, Ph.D. (Case Western Reserve University)
Professor of Clinical Psychology (1977-1978).

MELKER, RICHARD J., M.D., (Albert Einstein University)
Assistant Professor of Pediatrics and Anesthesiology, and Director of Emergency Medical Services, STH (1979-1979).

MENG, PAUL C., M.A. (University of Iowa)
Instructor of Physical Education (1979-1980).

MENKS, FEROL, M.S. (Ohio State University)
Associate Professor of Occupational Therapy (1973-1981).

MERCER, CECIL DUKE, Ed.D. (University of Virginia)
Professor (1974-1980).

MERIMEE, THOMAS J., M.D. (University of Louisville)
Professor of Medicine and Chief of Endocrinology (1974-1974).

MERRITT, ALFRED M., II, D.V.M. (Cornell University), M.S. (University of Pennsylvania)
Professor, Department of Medical Sciences, College of Veterinary Medicine (1978-1978).

MERRITT, HARRY C. JR., M.S. (Harvard University)
Professor of Architecture (1960-1973).

MERWIN, GERALD E., M.D., (University of Minnesota)
Assistant Professor of Surgery (1979-1979).

MESA, ROSA QUINTERO, M.S.L.S.
Librarian, Latin American Collection (1961-1977).

MESCH, BARRY, Ph.D. (Brandeis University)
Associate Professor of Religion (1969-1975).

MESSIER, WILLIAM F., D.B.A. (Indiana University)
Assistant Professor of Accounting (1978-1979).

METTS, PAUL E., B.A., C.P.A. (University of South Florida)
Vice President for Administration, Shands Teaching Hospital and Clinics, Inc. (1977-1980).

MEYER, DENNIS J., D.V.M. (University of Minnesota)
Assistant Professor, Department of Medical Sciences, College of Veterinary Medicine (1976-1976).

MEYER, MERLE E., Ph.D. (University of Washington)
Professor and Chairperson of Psychology (1972-1972). Clinical Psychology (1972-1972).

MEYSTEL, ALEXANDER M., Ph.D. (Enims, Moscow, the USSR)
Associate Professor of Electrical Engineering (1980-1980).

MICHA, DAVID ALLAN, Ph D. (Uppsala University)
Professor of Chemistry and Physics (1969-1974).

MICHAEL, MAX JR., M.D. (Harvard University)
Professor of Medicine and Assistant Vice President for Health Affairs/JHEP (1959-1979)

MICKLE, J. PARKER, M.D. (Vanderbilt University)
Associate Professor of Neurological Surgery (1979-1979).

MICKLE, STEPHAN P., J.D. (University of Florida)
Assistant Professor of Law (1971-1971).

MIDHA, CHAND KRISTAN, Ph.D. (Iowa State University)
Assistant Professor of Statistics (1980-1980).

MILAM, JAMES R., M.S. (University of Florida)
Associate in Microbiology and Cell Science and Assistant Chairman (1975-1978).

MILANICH, JERALD T., Ph.D. (University of Florida)
Chairman and Curator of Archaeology, Florida State Museum, and Joint Professor of Anthropology (1968-1981).

MILCH, ERIC M., Ed.S. (University of Florida)
Coordinator of Family Housing Programs-Housing (1980-1980).

MILES, RICHARD DAVIS, Ph.D. (Purdue University)
Associate Professor, Poultry Science (1976-1981).

MILLER, CECIL D., B.S. (The Citadel)
Lieutenant, U.S. Navy, Assistant Professor of Naval Science (1980-1980).

MILLER, CLEVE DOUGLAS, LL.M. (New York University)
*Professor of Law (1973-1978).**

MILLER, D. GARY, Ph.D. (Harvard University)
Associate Professor of Classics and Linguistics (1972-1976).

MILLER, DAMON, M.S. (Iowa State University)
Assistant Professor (FAMU) 4-H, Florida Cooperative Extension Service (1970-1972).

MILLER, GARY J., Ph.D. (University of Florida)
Assistant Professor of Orthopaedic Surgery (1978-1978).

MILLER, JACQUELINE Y., M.S. (Catholic University of America)
Associate in Entomology, Florida State Museum (1981-1981).

MILLER, LEE D., Ph.D. (University of Pittsburgh)
Curator of Lepidoptera, Florida State Museum (1981-1981).

MILLER, PATRICIA H., Ph.D. (University of Minnesota)
Associate Professor of Psychology (1979-1979).

MILLER, RENEE N., M.Ed. (University of Florida)
University School Visiting Instructor, P. K. Yonge (1981-1981).

MILLER, ROBERT H., M.D. (University of Florida)
Associate Professor of Pediatrics, JHEP (1968-1973).

MILLER, SCOTT A., Ph.D. (University of Minnesota)
Associate Professor of Psychology (1977-1977).

MILLER, WILLIAM M., Ph.D. (Pennsylvania State University)
Associate Professor, Agricultural Engineering; Lake Alfred (1975-1980).

MILLIMAN, JEROME W., Ph.D. (University of California at Los Angeles)
Professor of Economics and Urban and Regional Planning (1976-1976).

MILLION, RODNEY R., M.D. (Indiana Medical School)
Professor of Radiation Therapy (1964-1969).

MILLS, JON L., J.D. (University of Florida)
Associate in Law Research (1972-1972).

MILLSAPS, KNOX, Ph.D. (California Institute of Technology)
Professor of Engineering Sciences and Chairman of the Department (1973-1973).

MILNER, GILBERT C., III, M.D. (University of Texas, Southwestern)
Associate Professor of Psychiatry (1973-1979)

MILON, J. WALTER, Ph.D. (Florida State University)
Assistant Professor, Food and Resource Economics (1978-1978).

MILTON, JAMES EDMUND, Ph.D. (University of Florida)
Engineer in Engineering Sciences; Resident Director, Eglin Grad. Engr. Ctr. (1966-1977).

MILTON, RUTH LOUISE, M.S. (Florida State University)
Associate Professor, 4-H and Other Extension Youth Programs (1952-1966).

MINGO, GWENUEL W., M.Ed
Director, DSSSP and Lecturer (1974-1978).

MINNICK, DANNY RICHARD, Ph.D. (University of Florida)
Professor, Entomology and Nematology (1971-1980).

MIRANDA, SALVADOR, M.S.L.S. (Florida State University)
Associate Librarian, Acquisitions (1976-1981).

MISBIN, ROBERT I., M.D. (Johns Hopkins University)
Associate Professor of Medicine (1976-1981).

MISCONI, NEBIL, Ph.D. (State University of New York at Albany)
Assistant Research Scientist of Astronomy (1980-1980).

MISHOE, JOHN WAYNE, Ph.D. (North Carolina State University)
Associate Professor, Agricultural Engineering (1974-1979).

MISLEVY, PAUL, Ph.D. (Pennsylvania State University)
Associate Professor, Agronomy, AREC-ONA (1971-1977).

MITCHELL, DAVID JAMES, Ph.D. (University of California)
Professor, Plant Pathology (1971-1981).

MITCHELL, JOHANN R., M.S. (University of Maryland)
Assistant Professor in Clinical and Community Dietetics (1981-1981).

MITCHELL, VERVIL LOUENE, M.S.
Associate Professor, Extension Home Economics (1965-1973).

MOAZAM, FARHAT, M.B., B.S. (Dow Medical College, Pakistan)
Associate Professor of Surgery, Pediatric Surgery (1978-1981).

MOBERLY, ROBERT B., J.D. (University of Wisconsin)
Professor of Law (1977-1979).

MODELL, JEROME H., M.D. (University of Minnesota)
Professor and Chairman, Department of Anesthesiology (1969-1969).

MOFFAT, ROBERT C.L., LL.M. (University of Sydney)
Professor of Law (1966-1971).

MOFFATT, SHEILA, M.S.W. (Tulane University)
Instructor of Social Work in Psychiatry (1980-1980).

MOHAMMED, HAMDI A., Ph.D. (University of Michigan), D.D.S. (University of Alexandria)
Professor of Dental Biomaterials (1974-1974).

MONACO, CHRISTOPHER S., M.F.A. (University of South Florida)
Assistant in Communications, Department of Learning Resources and Communications, J. Hillis Miller Health Center (1980-1980).

MONIF, GILLES, R.G., M.D. (Boston University)
Associate Professor of Obstetrics and Gynecology (1968-1971).

MONKHORST, HENDRIK JAN, Ph.D. (University of Groningen)
Associate Professor of Physics (1978-1978).

MONTAGUE, CLAY L., Ph.D. (University of Georgia)
Assistant Professor of Environmental Engineering Sciences (1980-1980).

MONTGOMERY, HOYLE FLEMING, JR., M.A. in L.S.
Associate Librarian, Reference and Bibliography (1962-1970).

MOODY, LINDA ELIZABETH, Ph.D. (University of Florida)
Assistant Professor, Extension Home Economics (1977-1977).

MOORE, ALAN CONINGSBY, M.Ed., M.A.
Professor of Physical Education (1953-1977).

MOORE, CLARENCE A., Ph.D. (University of Alabama)
Professor and Chairperson, Department of General Physical Education (1971-1971).

MOORE, DANNY L., M.A. (University of Iowa)
Assistant Professor of Marketing (1980-1980).

MOORE, GLORIA ANDREWS, Ph.D. (University of Kentucky)
Assistant Professor, Fruit Crops (1981-1981).

MOORE, JOHN EDWARD, Ph.D. (Ohio State University)
Professor, Animal Science (1961-1973).

MOORE, THERAL ORVIS, Ph.D. (University of Missouri)
Associate Professor of Mathematics (1955-1966).

MOORHEAD, MICHAEL JONATHAN, J.D. (Howard University)
Professor of Law (1978-1978).

MORELAND, ALVIN F., D.V.M., M.S. (University of Georgia)
Professor and Head, Division of Lab Animal/Wildlife Medicine and Director, Health Center Animal Resources; Professor, Department of Special Clinical Services, College of Veterinary Medicine (1963-1979).

MORGAN, ALICE ESTHER, M.Ed. (University of North Carolina)
Associate Professor of Education (1958-1978).

MORGAN, CHARLES FREDERICK, M.Arch. (UCLA)
Associate Professor of Architecture (1976-1981).

MORGAN, JAMES I., Ed.D. (University of Florida)
University Counseling Psychologist, Associate Professor of Counselor Education (1967-1980).

MORGAN, LINDA, M.D. (Medical College of Pennsylvania)
Assistant Professor of Obstetrics and Gynecology (1981-1981).

MORGAN, MARGARET K., Ph.D. (University of Kentucky)
Professor of Education (1972-1981).

MORRILL, OLIVE LEMON, Ed.D. (Dacca University)
Assistant Dean, Professor and Chairman, Home Economics, Florida Cooperative Extension Service (1970-1970).

MORRIS, CHRISTINE M., M.Ed. (University of Florida)
University School Instructor, P. K. Yonge Laboratory School (1972-1978).

MORRIS, MILTON E., Ph.D. (University of Wisconsin)
Professor and Chairman, IFAS Editorial (1976-1976).

MORRISON, JAMES F., Ph.D. (Stanford University)
Associate Professor of Political Science (1966-1971).

MORSE, RICHARD HUGH, M.Arch. (Kansas State University)
Associate Professor of Architecture and Director of Student Services (1967-1973).

MORSINK, CATHERINE, Ed.D. (University of Kentucky)
Professor and Chairman of Special Education (1980-1980).

MORTENSEN, JOHN ALAN, Ph.D. (Cornell University)
Professor, Fruit Crops, AREC-Leesburg (1960-1977).

MOSCOVICI, CARLO, Ph.D. (Rome)
Professor of Pathology and Immunology and Medical Microbiology, VAMC (1967-1973).

MOSKOVITZ, RICHARD A., M.D. (Harvard)
Assistant Professor of Psychiatry (1977-1977).

MOTT, GERALD OAKLEY, Ph.D. (Cornell University)
Professor, Agronomy (1968-1968).

MOUDGIL, BRIJ MOHAN, Sc.D. (Columbia University)
Associate Professor of Materials Science and Engineering (1980-1980).

MOXLEY, CLISBY CAREY, Ph.D. (University of Kentucky)
Professor, Food and Resource Economics (1955-1961).

MOYE, HUGH ANSON, Ph.D. (University of Florida)
Professor, Food Science and Human Nutrition (1965-1978).

MOYER, CARL M., M.S.Ed. (Bucknell University)
Development Director, Associate in Development for the College of Liberal Arts and Sciences (1980-1980).

MUELLER, PAUL ALLEN, Ph.D. (Rice University)
Associate Professor of Geology (1973-1978).

MUELLER, WILLIAM A., D.M.D. (University of Louisville)
Assistant Professor of Pediatric Dentistry (1981-1981).

MUGA, MARVIN LUIS, Ph.D. (University of Texas)
Professor of Chemistry (1960-1976).

MULKEY, W. DAVID, Ph.D. (Clemson University)
Assistant Professor, Food and Resource Economics (1977-1977).

MULLALLY, LEE J., Ph.D. (Michigan State University)
Associate Professor in Education (1978-1978).

MULLINS, JOHN THOMAS, Ph.D. (University of North Carolina)
Professor of Botany, IFAS (1959-1975).

MUNIZ, CARLOS F., M.D. (University of Havana)
Associate Professor of Psychiatry (1971-1975).

MUNRO, ROBERT J., Ph.D.(University of Florida)
Associate Law Librarian (1975-1981).

MUNROE, DONALD L., M.S. (University of Florida)
Radiation Control Officer; Head, Radiation Control and Radiological Services (1981-1981).

MUNSON, EDWIN S., M.D. (University of Tennessee)
Professor of Anesthesiology (1971-1971).

MUNSON, JOHN B., Ph.D. (University of Rochester)
Professor of Neuroscience and Associate Professor of Physiology (1969-1981).

MURARO, RONALD P., M.Agr. (University of Florida)
Assistant Professor, Food and Resource Economics, AREC-Lake Alfred (1969-1979).

MURPHY, CAROL JEAN, Ph.D. (University of Pennsylvania)
Assistant Professor of French (1979-1979).

MURPHY, LIZETTE L., M.S. (University of Alabama)
Associate Professor, Extension Home Economics (1970-1975).

MURPHY, THOMAS FROST, M.B.A. (University of California at Berkeley)
Assistant to the Dean for Special Programs, College of Business Administration (1969-1969).

MURRAY, ERNEST DON, M.F.A., M.Ed. (University of Florida)
Associate Professor of Art (1968-1974).

MURRAY, FREDERICK T., M.D. (Hahnemann Medical College)
Assistant Professor of Medicine (1980-1980).

MUSCHLITZ, EARLE EUGENE, JR., Ph.D. (Penn State University)
Professor of Chemistry (1954-1958).

MUTH, EGINHARD J., Ph.D. (Polytechnic Institute of Brooklyn)
Professor of Industrial and Systems Engineering (1965-1974).

MUTHARD, JOHN E., Ph.D. (Ohio State University)
Professor and Chairperson of Rehabilitation Counseling and Head of Rehabilitation Research Institute (1967-1977).

MUTHER, THOMAS F., Ph.D. (University of Leeds)
Associate Professor of Pharmacology and Therapeutics (1963-1974).

MUZYCZKA, NICHOLS, Ph.D. (Johns Hopkins University)
Assistant Professor of Immunology and Medical Microbiology (1977-1977).

MYER, ROBERT O., Ph.D. (Washington State University)
Assistant Professor, Animal Science, ARC-Marianna (1981-1981).

MYERS, GARDINER, Ph.D. (University of California at Berkeley)
Associate Professor of Chemistry (1965-1972).

MYERS, JULIAN MOSTELLA, M.S.A. (University of Florida)
Professor, Agricultural Engineering (1947-1960).

MYERS, ROBERT BROWN, Ed.D. (University of Florida)
Professor and Chairperson of General Teacher Education (1952-1975).

MYHRE, DONALD LAVERNE, Ph.D. (University of Wisconsin)
Professor, Soil Science (1975-1975).

MYRICK, ROBERT DEWAYNE, Ph.D. (Arizona State University)
Professor of Education (1967-1972).

NAGAN, WINSTON PERCIVAL, LL.M. (Duke University)
*Professor of Law (1975-1978).**

NATION, JAMES LAMAR, Ph.D. (Cornell University)
Professor, Entomology and Nematology (1960-1972).

NATTRESS, JOHN ANDREW, D.E. (Embry-Riddle University)
Executive Vice President and Professor of Industrial and Systems Engineering (1957-1978).

NATTRESS, MARGARET BICE, M.A. (Northwestern University)
Associate Professor of Speech (1969-1975).

NATZKE, ROGER P., Ph.D (University of Wisconsin)
Professor and Chairman, Dairy Science (1981-1981).

NAVATHE, SHAMKANT B., Ph.D. (University of Michigan)
Associate Professor of Computer and Information Sciences (1980-1980).

NAYLOR, JOHN GEOFFRY, M.F.A. (University of Illinois)
Professor of Art (1959-1977).

NEAL, FRED CARLTON, D.V.M., M.S. (Texas A&M University)
Associate Professor, Preventive Medicine, College of Veterinary Medicine, IFAS (1962-1966).

NEALE, JAMES RALPH, JR., Ed.D. (Columbia University)
Associate Professor of English (1946-1963).

NEHILEY, JAMES MICHAEL, Ph.D. (Florida State University)
Assistant Professor, IFAS Editorial (1974-1974).

NEILSON, JOHN TAYLOR, Ph.D. (University of Glasgow)
Assistant Dean for Research and Graduate Studies and Professor, Metabolism, College of Veterinary Medicine, IFAS (1968-1981).

NEIMEYER, GREG J., Ph.D (University of Notre Dame)
Assistant Professor of Psychology (1981-1981).

NEIMS, ALLEN H., M.D., Ph.D. (Johns Hopkins University)
Professor and Chairman, Department of Pharmacology and Therapeutics, and Professor of Pediatrics (1978-1978).

NELL, TERRIL ARNOLD, Ph.D. (Michigan State University)
Assistant Professor, Ornamental Horticulture (1976-1976).

NELSON, CHARLES WARREN, Ph.D. (University of Maryland)
Professor of Mathematics and Education (1966-1974).

NELSON, MARIE D., Ph.D. (University of Oregon)
Associate Professor of English (1974-1979).

NEUGROSCHEL, ARNOST, Ph.D (Technion Israel Inst. Tech.)
Associate Professor of Electrical Engineering (1975-1979).

NEVILL, DOROTHY D., Ph.D. (University of Florida)
Associate Professor of Psychology (1971-1977).

NEVILL, GALE ERWIN, JR., Ph.D. (Stanford University)
*Professor of Engineering Sciences (1964-1968).**

NEVIS, ARNOLD HASTINGS, M.D. (Harvard University), Ph.D. (Massachusetts Institute of Technology)
Professor of Electrical Engineering and Biophysics(1960-1971).

NEW, MELVYN, Ph.D. (Vanderbilt University)
Professor of English and Chairman (1966-1976).

NEWCOMB, ARTHUR PERRY, JR., Ph.D. (Stanford University)
Associate Professor of Education (1963-1963).

NEWELL, JOHN M., Ph.D. (University of Texas)
Professor of Education (1967-1971).

NEWMAN, ARTHUR J., Ed.D. (Indiana University)
Professor of Education (1968-1977).

NEWMAN, E. GUSTAVE, M.D. (Duke University)
Associate Professor of Psychiatry (1977-1977).

NEWMAN, ROBERT E., M.D. (George Washington University)
Assistant Professor of Psychiatry (1977-1977).

NIBLETT, CHARLES L., Ph.D. (University of California, Riverside)
Professor and Chairman, Plant Pathology (1980-1980).

NICHELSON, JACK C., M.F.A. (Indiana University)
Professor of Art (1961-1978).

NICHOLS, BIFF, B.A. (North Carolina State University)
Assistant Basketball Coach (1980-1980).

NICHOLS, GERALDINE CLEARY, Ph.D. (Johns Hopkins University)
Assistant Professor of Spanish (1979-1979).

NICHOLS, WILMER W., Ph.D. (University of Alabama)
Associate Professor of Medicine and Assistant Professor of Physiology (1974-1974).

NICKENS, JOHN MARCUS, Ph.D. (Florida State University)
Associate Professor of Education (1971-1977).

NICOL, DAVID, Ph.D. (Stanford University)
Professor of Zoology (1965-1978).

NICOLETTI, P.L., D.V.M., (University of Missouri), M.S. (University of Wisconsin)
Professor, Preventive Medicine, College of Veterinary Medicine, IFAS (1978-1978).

NIDDRIE, DAVID LAWRENCE, Ph.D. (University of Manchester, England)
Professor of Geography (1966-1966).

NIGG, HERBERT NICHOLAS, Ph.D. (University of Illinois)
Associate Professor, Entomology and Nematology, AREC-Lake Alfred (1974-1979).

NISSEN, KAREN M., M.Ed. (University of Georgia)
Student Development Specialist, Housing (1981-1981).

NOFFSINGER, WILLIAM B., B.A. (University of Florida)
Systems Coordinator (1979-1981).

NORDEN, ALLAN JAMES, Ph.D. (Iowa State University)
*Professor, Agronomy (1958-1971).**

NORDLIE, FRANK GERALD, Ph.D. (University of Minnesota)
Professor of Zoology (1961-1976).

NORDSTEDT, ROGER ARLO, Ph.D. (Ohio State University)
Associate Professor, Agricultural Engineering (1969-1975).

NORMANN, SIGURD J., M.D., Ph.D. (University of Washington)
Professor and Chief of Cardiac Pathology (1968-1977).

NORTHROP, JAMES CLEMENT, Ed.D. (University of Florida)
Associate Professor, 4-H and Other Extension Youth Programs (1974-1978).

MOTELOVITZ, MORRIS, M.D. (University of Witwatersrand)
Associate Professor of Obstetrics and Gynecology and Director of Center for Climateric Studies (1974-1979).

NOYES, WARD D., M.D. (University of Rochester)
Professor of Medicine and Chief of Hematology (1961-1975).

NUETZEL, WILLIAM ANDREW, M.S. (Purdue University)
Associate Professor of Health Education (1959-1969).

NUNEZ, THERON ALDINE, JR., Ph.D. (University of California at Berkeley)
Associate Professor of Anthropology (1963-1968).

NUNNERY , MICHAEL YATES, Ed.D. (University of Tennessee)
Professor of Education (1968-1968).

NUTTER, RONALD E., Ph.D. (University of Michigan)
Assistant Professor of Special Education (1978-1978).

NYCUM, THOMAS G., M.B.A. (University of Nebraska)
Director of Physical Plant (1980-1980).

NYE, DAVID J., Ph.D. (University of Pennsylvania)
Associate Professor of Insurance and Finance (1971-1978).

OBERLIN, LYNN C., Ed.D. (Michigan State University)
Professor of Education (1970-1977).

OBERST, M.A., J.D. (University of Florida)
Associate Professor of Law (1979-1979).

OBLINGER, JAMES L., Ph.D. (Iowa State University)
Associate Professor, Food Science and Human Nutrition (1972-1977).

OBLON, DAVID J., M.D. (University of Pennsylvania)
Assistant Professor of Medicine (1980-1980).

O'BRIEN, DANIEL J., B.S.N. (University of Florida)
Associate in Nursing, College of Nursing (1978-1978).

O'BRIEN, THOMAS W., Ph.D. (Marquette University)
Professor of Biochemistry and Molecular Biology (1966-1979).

OCHI, MICHEL DAZUO, Ph.D. (American University) Ph.D. (Osaka University)
Professor of Coastal and Oceanographic Engineering (1979-1979).

O'CONNELL, JOHN PAUL, Ph.D. (University of California, Berkeley)
Acting Chairman and Professor of Chemical Engineering (1966-1981).

O'CONNOR, JOHN ARTHUR, M.A. (University of California at Berkeley)
Associate Professor of Art (1969-1975).

OCUMPAUGH, WILLIAM ROBERT, Ph.D. (University of Missouri)
Associate Professor, Agronomy (1975-1981).

ODUM, HOWARD THOMAS, Ph.D. (Yale University)
Graduate Research Professor of Environmental Engineering Sciences and Director, Center for Wetlands (1970-1973).

OFIR, YESAKIEL CHEZY M.S. (Ben-Gurion University)
Provisional Assistant Professor of Marketing (1980-1980).

O'HAIR, S.K., Ph.D. (Texas A&M University)
Assistant Professor, Vegetable Crops, AREC-Homestead (1979-1979).

OHANIAN, MIHRAN J., Ph.D. (Rensselaer Polytechnic Institute)
Associate Dean for Research, College of Engineering and Industrial Experiment Station, and Professor of Nuclear Engineering Sciences (1963-1979).

ÖHRN, NILS YNGVE, Ph.D. (Uppsala)
Professor of Chemistry and Physics, Chairperson of Chemistry Department (1966-1977).

OLDFIELD-HALL, ELIZABETH A., M.Ed. (University of Florida)
Assistant in Psychiatry (1977-1977).

OLEJNIK, STEPHEN F., Ph.D. (Michigan State University)
Assistant Professor in Education (1978-1978).

OLIVER, CALVIN CLEET, Ph.D. (Purdue University)
Professor of Mechanical Engineering and Professor of Engineering Sciences (1967-1967).

OLIVER, JOHN PARKER, Ph.D. (U.C.L.A.)
Associate Professor of Astronomy and Director of the Optical Observatory (1970-1980).

OLIVER, LESLIE H., Ph.D. (McGill University)
Associate Professor of Computer and Information Sciences, College of Engineering (1979-1979).

OLIVER-SMITH, ANTHONY RICHARD, Ph.D. (Indiana University)
Associate Professor of Anthropology (1972-1977).

OLSON, STEPHEN MICHAEL, Ph.D. (Clemson University)
Assistant Professor, Vegetable Crops, AREC-Quincy (1981-1981).

OLSON, TIMOTHY AANEN, Ph.D. (Iowa State University)
Assistant Professor, Animal Science (1977-1977).

OLSSON, CARL NIELS, Ph.D. (University of Florida)
Associate Professor of Geography, Physical Sciences, and Astronomy (1958-1972).

O'MALLEY, JOHN RICHARD, Ph.D. (University of Florida)
Professor of Electrical Engineering (1959-1973).

OMER, GUY CLIFTON JR., Ph.D. (California Institute of Tech.)
*Professor of Astronomy and Physics (1955-1972).**

ONODA, GEORGE Y., JR., Ph.D. (MIT)
Professor of Materials Science and Engineering (1972-1978).

OPDYKE, NEIL D., Ph.D. (Durham University)
Professor and Chairman of Geology (1980-1980).

O'PRAY, MARY M., M.A. (New York University)
Assistant Professor of Nursing (1980-1980).

ORLANDO, JACQUELINE, Ph.D. (University of Florida)
Assistant Research Scientist, Community Health and Family Medicine (1977-1977).

ORSER, FRANK WILLIAM, M.S.
Associate Librarian and Assistant Chairperson, Acquisitions Department (1969-1969).

ORSER, LAWAN V., M.L.S. (Rutgers University)
Associate Librarian, IFAS Library (1970-1975).

ORTH, P. G., Ph.D. (University of Wisconsin)
Associate Professor, Soil Science, AREC-Homestead (1959-1978).

OSTOICH, MARK STEPHEN, D.M.A. (Louisiana State University)
Assistant Professor of Music (1974-1977).

OSWALD, ANDREW JACKSON, B.S. (Troy State College)
Associate in Research Administration (Management), IFAS (1973-1973).

OTIS, ARTHUR B., Ph.D. (Brown University)
Professor of Physiology (1956-1980).

OTT, DANIEL D., B.A., (Buena Vista College)
Director of Annual Fund and Records (1978-1978).

OTT, EDGAR ALTON, Ph.D. (Purdue University)
Professor, Animal Science (1970-1979).

OTWELL, WALTER STEVEN, Ph.D. (North Carolina State University)
Assistant Professor, Food Science and Human Nutrition (1978-1978).

OVERMAN, ALLEN RAY, Ph.D. (North Carolina State College)
Professor, Agricultural Engineering (1969-1979).

OVERMAN, AMEGDA JACK, M.S. (University of Florida)
Professor, Entomology and Nematology, AREC-Bradenton (1951-1973).

OWEN, DENNIS EDWARD, Ph.D. (Princeton University)
Assistant Professor of Religion (1974-1974).

OZAKI, HENRY YOSHIO, Ph.D. (Cornell University)
Associate Professor, Vegetable Crops, AREC-Belle Glade (1954-1966).

PACE, JUDITH L., Ph.D. (University of Georgia)
Assistant Research Scientist, Division of Comparative Pathology, College of Veterinary Medicine (1981-1981).

PACKER, ATHOL B., Ph.D., (University of Kansas)
Associate Professor of Education (1967-1972).

PACTOR, H. SIDNEY, M.A. (University of Florida)
*Assistant Professor of Journalism and Communications (1972-1974).**

PAFFORD, VIRGIE MELTON. M.P.H. (University of North Carolina)
*Associate Professor, College of Nursing (1959-1977).**

PAGANINI, LOUIS ANTHONY, Ph.D. (University of Florida)
Associate Professor of Geography (1968-1978).

PAGE, HERMAN C., B.S. B.A. (University of Florida)
Systems Coordinator, Housing (1980-1980).

PAGOULATOS, EMILIO, Ph.D. (Iowa State University)
Associate Professor, Food and Resource Economics (1979-1979).

PALENIK, GUS J., Ph.D. (University of Southern California)
Professor of Chemistry (1970-1972).

PALMER, ARNO ZANE, Ph.D. (University of Missouri)
Professor, Animal Science (1955-1964).

PALMER, RICHARD DELRAY, Ed.D. (University of Florida)
Continuing Education Coordinator, Treed Center, Division of Continuing Education (1966-1978).

PALMORE, W. P., D.V.M. (Auburn University), Ph.D. (Yale University)
Associate Professor, Preventive Medicine, College of Veterinary Medicine, IFAS (1974-1974).

PANUSH, RICHARD S., M.D. (University of Michigan)
Associate Professor of Medicine, and Chief, Allergy and Rheumatology (1973-1978).

PAPELL, DAVID H. Ph.D. (Columbia University)
Assistant Professor of Economics (1980-1981).

PARIS, BERNARD J., Ph.D. (Johns Hopkins)
Professor of English (1981-1981).

PARKER, ROBERT B., D.V.M. (University of California at Davis)
Assistant Professor, Department of Surgical Sciences, College of Veterinary Medicine (1977-1977).

PARKER, WOODROE M., Ph.D. (University of Florida)
Associate Professor of Education (1974-1980).

PARKHURST, ROBERT D., M.D. (University of Michigan Medical School)
Assistant Professor of Pediatrics (1979-1979).

PARRISH, FRED S., Ph.D. (Florida State University)
Associate Professor of Journalism and Communications (1970-1980).

PARRISH, JAMES BRYAN, B.S.B.A. (University of Florida)
Director of Admissions (1963-1970).

PARRISH, JANICE H., M.Ed. (University of Houston)
Assistant Professor of Medical Technology (1975-1978).

PARSONS, JAMES T., M.D. (Duke University)
Assistant Professor of Radiation Therapy (1980-1980).

PARSONS, LAWRENCE REED, Ph.D. (Duke University)
Assistant Professor, Fruit Crops, AREC-Lake Alfred (1979-1979).

PARTHENIADES, EMMANUEL, Ph.D. (University of California)
*Professor of Engineering Sciences, and Professor of Coastal and Oceanographic Engineering (1968-1969).**

PASLEY, SHERMAN F., Ph.D. (University of Florida)
Assistant Research Scientist, International Programs (Malawi) IFAS (1981-1981).

PATE, FINDLAY MOYE, Ph.D. (University of Georgia)
Associate Professor, Animal Science, AREC-Belle Glade (1970-1975).

PATRAY, JOANN H., Ph.D. (University of Florida)
Assistant Dean and Associate Professor, College of Nursing/JHEP (1979-1981).

PATRICK, J. CHRIS, M.Ed. (Eastern Kentucky)
Head Athletic Trainer (1970-1970).

PATTERSON, BENTON R., M.A. (East Texas State University)
Assistant Professor of Journalism and Communications (1980-1980).

PATTERSON, ELAM PUSEY, M.A.E. (University of Florida)
Assistant Professor of Mechanical Engineering (1952-1956).

PATTON, DAVID L., J.D. (University of Kentucky)
Captain, U.S. Army, Assistant Professor of Military Science (1980-1980).

PAUL, HARRY W., Ph.D. (Columbia University)
Professor of History (1966-1973).

PAUL, WILLIAM L., M.D. (University of Kentucky)
Associate Professor of Anesthesiology (1976-1981).

PAULUS, DAVID A., M.D. (University of Vermont)
Assistant Professor of Anesthesiology (1980-1980).

PEACOCK, CHARLES H., Ph.D. (University of Florida)
Assistant Professor, Ornamental Horticulture (1981-1981).

PEACOCK, FENTRESS MCCOUGHAN, M.S. (University of Florida)
Professor, Animal Science , AREC-ONA (1952-1977).

PEACOCK, HUGH ANTHONY, Ph.D. (Iowa State University)
Center Director and Professor, Agronomy, AREC-Jay (1973-1973).

PEARSON, RICHARD N., LL.M. (Yale)
Professor of Law (1981-1981).

PECK, AMMON B., Ph.D., (University of Wisconsin)
Assistant Professor of Pathology (1979-1979).

PEEBLES, PEYTON Z., JR., Ph.D. (University of Pennsylvania)
Professor of Electrical Engineering (1981-1981).

PEEK, RALPH LEON, Ph.D. (University of Florida)
Associate Professor of History (1963-1969).

PELL, CHARLES, B.S. (Alabama)
Head Football Coach (1978-1978).

PENA, SONIA I., D.M.D. (University of Florida)
Instructor of Endodontics (1981-1981).

PENDERGAST, JANE F., Ph.D. (University of Iowa)
Assistant Research Scientist (1980-1980).

PENLAND, ARNOLD CLIFFORD JR., M.Ed. (Duke University)
Assistant Dean, College of Fine Arts, and Professor of Music (1970-1981).

PENNYPACKER, HENRY S., Ph.D. (Duke University)
Professor of Psychology (1962-1970).

PEPINE, CARL J., M.D. (New Jersey College of Medicine)
Professor of Medicine, VAMC and Chief, VA Cardiology (1974-1979).

PEPINSKY, RAYMOND, Ph.D. (University of Chicago)
Professor of Physics, Materials Science, Engineering, and Electrical Engineering (1968-1973).

PEREZ, FERMIN LUIS, M.L.S. (Kansas State Teachers College)
Assistant Law Librarian (1967-1968).

PEREZ, YVONNE, M.Ed. (University of Florida)
University School Instructor, P. K. Yonge Laboratory School (1980-1981).

PERKINS, HAVEN M., M.D. (University of Louisville)
Professor of Anesthesiology (1959-1972).

PERLETTE, JOHN M., Ph.D. (University of Chicago)
Associate Professor of English (1973-1978).

PERRIN, JOHN HENSTOCK, Ph.D. (University of London)
Professor of Pharmacy and Associate Chairman, Pharmacy (1976-1976).

PERRY, NATHAN WARREN, Ph.D. (Florida State University)
Professor and Chairman of Clinical Psychology and Professor of Psychology (1963-1977).

PERRY, VERNON G., Ph.D. (University of Wisconsin)
Assistant Dean for Research and Professor, Entomology and Nematology (1959-1978).

PERSON, WILLIS BAGLEY, Ph.D. (University of California)
Professor of Chemistry (1966-1966).

PERVIS, DENNIS W., Ph.D. (Michigan State University)
Assistant Research Scientist, International Programs (Malawi) IFAS (1981-1981).

PETERS, DONALD C., J.D. (University of Iowa)
Professor of Law (1973-1978).

PETERSON, JOHN C., M.D. (University of Florida)
Assistant Professor of Medicine (1978-1978).

PETERSON, LENNART RUDOLPH, Ph.D. (Massachusetts Institute of Technology)
Professor of Physics (1967-1978).

PETERSON, SANDRA M., M.S.S.S. (Boston University)
Assistant Research Scientist (1977-1977).

PETTWAY, RICHARD H., Ph.D. (University of Texas at Austin)
Florida Federal Savings Professor of Finance (1970-1981).

PETTY, ROY WILLIAM, M.D. (University of Arkansas)
Professor and Chairman of Orthopaedic Surgery (1975-1981).

PEVONKA, M. PETER, M.S.P. (University of Florida)
Associate Professor and Assistant Dean for Clinical Affairs, College of Pharmacy (1973-1979).

PEYTON, LLEWELLYN C., D.V.M. (Colorado State), M.S. (University of Minnesota)
Assistant Professor, Department of Surgical Sciences, College of Veterinary Medicine (1977-1977).

PFAFF, WILLIAM W., M.D. (Buffalo University)
Professor of Surgery and Director, Transplantation Program, JHMHC (1965-1977).

PFAHLER, PAUL L., Ph.D. (Purdue University)
Professor, Agronomy (1958-1971)

PHARIES, DAVID ARNOLD, Ph.D. (University of California at Berkeley)
Assistant Professor of Spanish and Linguistics (1980-1980).

PHILLIPS, M. IAN, Ph.D. (University of Birmingham, England)
Professor and Chairman of Physiology (1980-1980).

PICKARD, JOHN BENEDICT, Ph.D. (University of Wisconsin)
Professor of English (1963-1968).

PIEPER, JOHN A., Pharm.D. (SUNY at Buffalo)
Assistant Professor of Pharmacy Practice (1980-1980).

PIERCE, FRANK N., Ph.D. (University of Illinois)
Professor of Journalism and Communications (1972-1972).

PIERCE, JAMES ROBERT, J.D. (University of Florida)
Professor of Law (1968-1978).

PIERCE, JO ANN BELL, M.A. (University of Missouri)
Associate Professor, IFAS Editorial (1974

PIERCE, PATRICIA M. Ph D. (University of Texas)
Associate Professor, College of Nursing (1981-1981).

PIERCE, ROBERT N., Ph.D. (University of Minnesota)
Professor of Journalism and Communications (1970-1976).

PIERCE, ROBERT WILLIAM, JR., Ph.D. (University of Illinois)
Associate Professor of Geology (1969-1974).

PIERINGER, ARTHUR PAUL, Ph.D. (Cornell University)
Associate Professor, Fruit Crops, AREC-Lake Alfred (1956-1972).

PIERSON, K. KENDALL, M.D. (New York University)
Professor and Chief of Anatomical Pathology (1968-1974). Dean for Clinical Affairs (1968-1974).

PIOTROWSKI, GEORGE, Ph.D. (Case Western Reserve University)
Associate Professor of Orthopaedic Surgery; Associate Professor of Mechanical Engineering (1969-1976).

PIPERS, FRANK S., D.V.M., Ph.D. (Ohio State University)
Associate Professor, Department of Medical Sciences, College of Veterinary Medicine (1979-1979).

PIRKLE, EARL C., Ph.D. (University of Cincinnati)
Professor of Geology and Geography; Director of Physical Sciences Core Program; Associate Chair, Department of Geography (1950-1979).

PISANI, JOSEPH R., Ph.D. (University of Maryland)
*Professor of Journalism and Communications (1973-1977).**

PITMAN, WILLIAM D., Ph.D. (Texas A&M University)
Assistant Professor, AREC-ONA (1980-1980).

PITTS, JAMES H., Ph.D. (University of Northern Colorado)
Assistant Professor of Counselor Education (1971-1971).

PLANT, CHRISTINE, M.A. (University of South Florida)
University School Instructor, P.K. Yonge Laboratory School (1974-1978).

PLEASANTS, JULIAN MCIVER, Ph.D. (University of North Carolina)
Associate Professor of History (1969-1979).

PLOWMAN, FAYE T., M.A. (Michigan State University)
Associate Professor, Extension Home Economics.(1972-1977).

PLUTZKY, MAXIMO, M.D. (Havana University)
Professor of Psychiatry (1968-1975).

POHRONEZNY, KENNETH LOUIS, Ph.D. (Ohio State University)
Assistant Professor, Plant Pathology, AREC-Homestead (1976-1976).

POLOPOLUS, LEONIDAS, Ph.D (University of California)
Professor and Chairman, Food and Resource Economics (1965-1973).

PONIKVAR, CATHERINE A., M.A. (Bowling Green University)
Assistant Director of Housing for Staff and Student Development, Housing (1975-1978).

POOLE, REID, M.A. (University of Chicago)
Professor of Music (1949-1962).

POOLE, RICHARD TURK, Ph.D. (University of Florida)
Professor, Ornamental Horticulture, AREC-Apopka (1961-1975)

POPE, NOLAN FRANK, M.L.S. (Rutgers University)
Head of Systems and Computer Base Operations (1975-1978).

POPENOE, HUGH LLYWELYN, Ph. D. (University of Florida)
Director of International Programs, IFAS; Director of Center for Tropical Agriculture; Professor, Soils, Geography, Botany, Agronomy, IFAS (1960-1971).

POPOV, VASILE MIHAI, Ph.D. (Power Institute of the Romanian Academy)
Professor of Mathematics and Electrical Engineering (1972-1973).

POPP, DANIEL M., Ph.D (University of Chicago)
Associate Professor of German and Scandinavian (1973-1977).

POPPELL, J. EDWARD, B.S. (Florida State University)
Associate Controller (1971-1978).

POP-STOJANOVIC, ZORAN RISTA, Ph.D (Belgrade)
Associate Chairperson and Professor of Mathematics (1965-1972).

PORTIER, KEN, Ph.D. (University of North Carolina)
Assistant Professor, Statistics, IFAS (1979-1981)

POSNER, PHILIP, Ph.D. (SUNY-Downstate)
Associate Professor of Physiology (1972-1977)

POST, DON MCKENZIE, M.S.F. (University of Florida)
Associate Professor, Forest Resources and Conservation (1951-1976)

POULOS, PAUL W., JR., D.V.M. (University of California) V.M.D. (Vet College, Uppsala, Sweden)
Professor, Department of Special Clinical Sciences, College of Veterinary Medicine (1979-1979).

POWELL, WILLIAM R., Ed.D. (Indiana University)
Professor of Education (1974-1974)

POYNOR, ROBIN E., Ph.D. (Indiana University)
Assistant Professor of Art (1980-1980)

POZZETTA, GEORGE E., Ph.D. (University of North Carolina)
Associate Professor of History (1971-1976).

PRATO, SUE ANN, M.S. (University of Arizona)
Clinical Medical Nursing and Emergency Service, Shands Teaching Hospital and Clinics, Inc. (1980-1980)

PRESTON, JAMES F., Ph D (University of Minnesota)
Associate Professor, Microbiology and Cell Science (1969-1975).

PREVATT, J. WALTER, M.S. (University of Florida)
Assistant Professor, Food and Resource Economics, AREC-Bradenton (1979-1979).

PREVIC, EDWARD P., Ph.D. (University of Illinois)
Associate Professor, Microbiology and Cell Science (1965-1971).

PREVOST, THOMAS A. JR., B.S./B.A. (University of Florida)
Director of Planning and Budgeting, Shands Teaching Hospital and Clinics, Inc. (1971-1977).

PRICE, DONALD, Ph.D. (Purdue University)
Professor, Assistant Dean and Director, Energy Extension Service, Florida Cooperative Extension Service (1980-1980).

PRICE, JAMES F., Ph.D. (Clemson University)
Assistant Professor, Entomology and Nematology, AREC-Bradenton (1978-1978).

PRICE, JOHN WILBUR, Ph.D. (University of Michigan)
Associate Professor of Humanities (1961-1970).

PRIETO, ADOLFO, Ph.D. (University of Buenos Aires)
Visiting Graduate Research Professor (1981-1981).

PRIMACK, ROBERT B., Ed.D. (Rutgers University)
Associate Professor of Education (1966-1973).

PRINE, GORDON MADISON, Ph.D. (Ohio State University)
Professor, Agronomy (1958-1979).

PRING, DARYL ROGER, Ph.D. (North Dakota State)
Associate Professor, Plant Pathology, USDA (1971-1971).

PRITCHETT, WILLIAM LAWRENCE, Ph.D. (Iowa State University)
Professor, Soil Science (1948-1953).

PRITZ, STEPHEN J., JR., B.S. (University of Florida)
Associate Director, Student Financial Affairs (1970-1981).

PROBERT, WALTER, J.S.D. (Yale University)
Professor of Law (1959-1960).

PROCHASKA, FREDERICK JAMES, Ph.D. (North Carolina State University)
Professor, Food and Resource Economics (1970-1979).

PROCTOR, CHARLES LAFAYETTE II, Ph.D. (Purdue University)
Assistant Professor of Mechanical Engineering (1981-1981).

PROCTOR, SAMUEL, Ph.D. (University of Florida)
Distinguished Service Professor of History, Julien C. Yonge Professor of Florida History, Curator of History, Florida State Museum (1946-1974).

PROEGER, REDA M., M.L. (Emory University)
Assistant Librarian, Catalog (1977-1977).

PRUGH, PETER EUGENE, M.Arch. (Harvard)
Assistant Professor of Architecture (1974-1976).

PUEPPKE, STEVEN G., Ph.D. (Cornell University)
Assistant Professor, Plant Pathology (1979-1979).

PUHR, DANIEL M., M.S. (Mississippi State University)
Assistant in Epidemiology, Department of Preventive Medicine, College of Veterinary Medicine (1979-1979).

PURCIFULL, DAN ELWOOD, Ph.D (University of California)
Professor, Plant Pathology (1964-1975).

PURDY, BARBARA ANN, Ph.D. (University of Florida)
Associate Professor of Anthropology (1971-1976).

PURDY, LAURENCE HENRY, Ph.D. (University of Florida)
Associate Professor of Anthropology (1971-1976).

PURVIS, ALBERT COLUMBUS, Ph.D. (University of Illinois)
Associate Professor, Fruit Crops, AREC-Lake Alfred (1977-1980).

PYATT, EDWIN EUGENE, D.Eng. (Johns Hopkins University)
Professor of Environmental Engineering Sciences (1965-1965).

PYE, RUBY LEE, M.A. (Texas Women's University)
Associate Professor of Physical Education (1949-1978).

QUARLES, JAMES C., LL.B. (University of Virginia)
Professor of Law (1969-1969).

QUESENBERRY, KENNETH HAYS, Ph.D. (University of Kentucky)
Associate Professor, Agronomy (1975-1980).

QUINLAN, RAYMOND W., M.D. (Hahnemann Medical College)
Assistant Professor of Obstetrics and Gynecology (1978-1980).

QUINN, LEE W., Ph.D (University of Maryland)
Assistant Professor, 4-H and Other Youth Programs (1981-1981)

QUISLING, RONALD G., M.D. (University of Wisconsin)
Associate Professor of Radiology (1976-1981).

RABELL, ROSA B., M.Ed. (University of Florida)
University School Instructor, P.K. Yonge Laboratory School (1966-1970).

RABIN, AVIS, M.A. (Teachers College, Columbia University)
Assistant Professor, College of Nursing (1979-1979).

RADCLIFFE, ROBERT C., Ph.D. (Ohio State University)
Associate Professor of Finance (1971-1976).

RADELET, MICHAEL, Ph.D. (Purdue University)
Assistant Professor of Sociology (1979-1979)

RAGAN, MICHAEL R., D.M.D (University of Pennsylvania)
Assistant Professor of Operative Dentistry (1980-1980).

RAIZADA, MOHAN K., Ph.D. (University of Kanpur, India)
Associate Professor of Physiology (1981-1981).

RAMASWAMY, WELLAYAN, Ph.D. (Northwestern University)
Professor of Electrical Engineering (1981-1981).

RAMBO, PATRICIA B., B.S. (Florida International University)
Assistant to the President for International Studies (1966-1977).

RAMEY, ROBERT ANCEL, JR., D.SC. (University of Cincinnati)
Professor of Electrical Engineering; Associate Dean, College of Engineering, Associate Director, Engineering and Industrial Experiment Station (1966-1977).

RAMOND, PIERRE MICHEL, Ph.D. (Syracuse University)
Professor of Physics (1980-1980).

RAMPHAL, REUBEN, M.D., (McGill University)
Assistant Professor of Medicine (1978-1980).

RAND, COLLEEN S.W., Ph.D. (Stanford University)
Assistant Professor of Clinical Psychology in Psychiatry (1977-1977).

RAND, KENNETH H., M.D. (Stanford University)
Assistant Professor of Medicine and Immunology and Medical Microbiology (1977-1977).

RANDAZZO, ANTHONY FRANK, Ph.D. (University of North Carolina)
Associate Dean for Research and Professor of Geology (1967-1980).

RANDLES, RONALD HERMAN, Ph.D. (Florida State University)
Professor of Statistics (1981-1981).

RANDOLPH, JOHN, M.Ed. (William and Mary)
Head Track Coach, (1979-1979).

RAO, KOPPAKA V., Ph.D. (University of Wisconsin)
Professor Medicinal Chemistry, College of Pharmacy (1969-1969).

RAO, MURALI, Ph.D. (Tata Institute)
Professor of Mathematics (1980-1980).

RAO, PALAKURTHI SURESH CHANDRA, Ph.D., (University of Hawaii)
Assistant Professor, Soil Science (1975-1979).

RAO, PEJAVER VISHWAMBER, Ph.D. (University of Georgia)
Professor of Statistics (1965-1972).

RAU, CHARLES F., D.D.S., M.SC. (Ohio State University)
Associate Professor of Periodontics (1981-1981).

RAY, JORDAN B., JR., J.D. (University of Florida)
Professor, Business Law (1962-1975).

RAY, ROBERT BEVERLEY, Ph.D. (Indiana University)
Assistant Professor of English (1978-1978).

READ, FRANK T., J.D. (Duke University)
Dean and Professor of Law (1981-1981).

REAVES, DEBORAH, P., A.B., (Bucknell University)
Assistant in Engineering (1979-1979).

REDDISH, ROBERT LEE, Ph.D. (Texas A & M University)
Professor, Animal Science (1955-1972).

REDDY, D.V., Ph.D. (University of Liverpool)
Professor of Coastal and Oceanographic Engineering (1980-1980).

REDDY, KONDA RAMESHWER, Ph.D. (Louisiana State University)
Assistant Professor, Soil Science, AREC-Sanford (1979-1981).

REED-HILL, ROBERT ELLIS, D.Sc. (Yale University)
*Professor of Materials Science and Engineering (1960-1964).**

REESE, RANDOLPH, (Florida State University)
Head Swimming Coach (1976-1976).

REEVES, FRANK BLAIR, M. Arch. (University of Florida)
Professor of Architecture (1949-1968).

REGNA, JOSEPH LOUIS, M.A. (New York University)
Associate Professor of Recreation (1961-1976).

REGULSKI, FRANCIS J., JR., Ph.D. (Rutgers University)
Assistant Professor, Ornamental Horticulture, AREC-Monticello (1979-1979).

REICHARD, CARY LAYNE, Ed.D. (Colorado State University)
Associate Professor of Special Education (1969-1974).

REID, CHARLES EDWARD, Ph.D. (Louisiana State University)
Associate Professor of Chemistry (1948-1955).

REID, WILLIAM R., Ph.D. (Iowa State University)
Professor of Special Education (1969-1969).

REISKIND, JONATHAN, Ph.D. (Harvard University)
Associate Professor of Zoology (1967-1972).

REITER, MADALYN, M.A. (Goddard College)
University School Provisional Instructor, P.K. Yonge Laboratory School (1980-1981).

REITZ, CLAIR D., D D.S. (University of Pennsylvania)
Professor of Operative Dentistry (1976-1976).

REITZ, H JOSEPH, Ph,D. (MIT)
Professor of Management (1973-1976).

REITZ, HERMAN J., Ph.D. (Ohio State University)
Center Director and Professor, Fruit Crops AREC-Lake Alfred (1946-1957).

REMSEM, JOYCE F., Ph.D. (Rutgers University)
Assistant Professor of Biochemistry and Molecular Biology (1970-1979).

RENNER, RICHARD R., Ph.D. (University of Texas)
Professor of Education (1965-1971).

RENNERT, HAL H., Ph.D. (University of Washington)
Assistant Professor of German (1979-1979).

RENZ, JAMES HENRY, A.M.L.S.
Associate Director of Libraries (1970-1976).

RESNICK, JAQUELYN LISS, Ph.D. (University of Florida)
Counseling Psychologist, University Counseling Center, Associate Professor of Counseling Education (1970-1974).

RESNICK, MICHAEL B., Ed.D. (University of Florida)
Assistant Professor of Pediatrics (1976-1978).

RESTER, JAMES HARVEY, M.D. (Louisiana State University)
University Physician (1978-1978).

REUMAN, PETER D., M.D. (University of Chicago)
Assistant Professor of Pediatrics (1981-1981).

REXROAT, CYNTHIA, Ph.D. (University of Illinois)
Assistant Professor of Sociology (1979-1979).

REYNOLDS, JOHN EVERETT, Ph.D. (Iowa State University)
Professor, Food and Resource Economics (1966-1980).

RHATIGAN, RONALD M., M.D. (University of Iowa)
Clinical Professor and JHEP Chairman (1976-1977).

RHINE, JACK
Assistant Baseball Coach (1980-1980).

RHINE, LEONARD, M.L.S. (Queens College)
Associate Librarian, J. Hillis Miller Health Center Library (1973-1978).

RHOADES, FREDERICK MILTON, Ph.D. (Mississippi State College)
Professor, Soil Science, AREC-Quincy (1966-1979).

RHOADES, HARLAN L., Ph.D. (University of Illinois)
Professor, Entomology and Nematology, AREC-Sanford (1959-1973).

RHOTON, ALBERT L. JR., M.D. (Washington University)
Professor of Surgery and Chairman, Department of Neurological Surgery (1972-1973).

RHUE, ROY DEAN, Ph.D. (Oregon State University)
Associate Professor, Soil Science (1977-1980)

RICE, PRUDENCE, M., Ph.D. (Pennsylvania State University)
Associate Professor of Anthropology (1976-1981).

RICH, JIMMY RAY, Ph.D. (University of California, Riverside)
Acting Center Director and Associate Professor, Entomology and Nematology, ARC-Live Oak (1976-1981).

RICHARD, GEORGE A., M.D. (University of Pittsburgh)
Professor of Pediatrics and Chief of Nephrology (1967-1975).

RICHARDS, PAMELA S., Ph.D. (Northwestern University)
Associate Professor of Sociology (1976-1981).

RICHESON, JAMES E., M.S., D.D.S. (Emory University)
Assistant Professor of Operative Dentistry (1980-1980).

RIDGE, JOHN DREW, Ph.D. (University of Chicago)
Visiting Professor of Geology (1975-1980).

RIDGILL, GARY DALE, M.Arch. (MIT)
Associate Professor of Architecture (1972-1977).

RIENZO, BARBARA ANN, Ph.D. (Southern Illinois University)
Assistant Professor of Health Education (1977-1977).

RIEKERK, HANS, Ph.D. (University of Washington)
Assistant Professor, Forest Resources and Conservation (1977-1979).

RIGDON, IMOGENE, M.S.N. (Catholic University)
Assistant Professor, College of Nursing (1977-1978).

RIGGALL, FRANK C., M.D. (University of West Virginia)
Associate Professor of Obstetrics and Gynecology and Director of Endocrinology Division (1976-1981).

RIKER, HAROLD CLARK, Ed.D. (Columbia University)
Professor of Education (1938-1971).

RING, WADE, M.Ed. (University of Georgia)
University School Instructor, P.K. Yonge Laboratory School (1958-1962).

RION, WILLIAM E., M.A.
*Director of J. Wayne Reitz Union (1945-1948).**

RITTER, GERHARD X., Ph.D. (University of Wisconsin)
Associate Professor of Mathematics (1971-1976).

RITTER, GRANT ALDEN, Ph.D. (Cornell University)
Assistant Professor of Mathematics (1976-1976).

RIZZI, ANTHONY J., M.P.A. (New York University)
Director, Billing and Collections, Shands Teaching Hospital and Clinics, Inc. (1978-1978).

ROAN, VERNON PARKER, Ph.D. (University of Illinois)
Professor of Mechanical Engineering (1966-1973).

ROBBINS, CHARLES LEWIS, M.S. (Iowa State University)
Assistant Professor, Department of Sociology (1956-1976).

ROBBINS, MARILYN J., B.S. (Iowa State University)
Associate in Psychiatry (1970-1973).

ROBBINS, RALPH COMPTON, Ph.D. (University of Illinois)
Associate Professor, Food Science and Human Nutrition (1959-1966).

ROBERTS, ARTHUR J., M.D. (Case Western Reserve University)
Associate Professor of Surgery, Thoracic and Cardiovascular Surgery (1981-1981).

ROBERTS, BENJAMIN J., Ph.D. (Pennsylvania State University)
Assistant Professor of Psychology (1977-1977).

ROBERTS, DALE L., M.R.C. (University of Florida)
Clinical Instructor of Rehabilitation Counseling (1978-1978).

ROBERTS, DANIEL ALTMAN, Ph.D. (Cornell University)
Professor, Plant Pathology (1959-1964).

ROBERTS, LEONIDAS HOWARD, Ph.D. (University of Florida)
Professor of Physical Sciences and Astronomy (1949-1971).

ROBERTS, ROBERT MICHAEL, Ph.D. (Oxford University)
Professor of Biochemistry and Molecular Biology (1970-1978).

ROBERTSON, MARY F., Ph.D. (University of Toronto)
Associate in Psychiatry (1966-1970).

ROBERTSON, WILLIAM KITCHENER, Ph.D. (Purdue University)
Professor, Soil Science (1950-1965).

ROBINSON, DAVID H., Ph.D. (University of Iowa)
Assistant Professor of Statistics (1979-1979).

ROBINSON, FRANK ALBERT, M.S. (Auburn University)
Professor, Entomology and Nematology (1950-1973).

ROBINSON, JAMES DANIEL, Pharm. D. (University of Cincinnati)
Assistant Professor of Pharmacy (1977-1977).

ROBINSON, WILLIAM RONALD, Ph.D. (Ohio State University)
Professor of English (1967-1971).

ROBISON, J. JEFFREY, M.S.Ed. (Ohio University)
Director of Corporate and Foundation Relations (1980-1980).

ROBNICK, SANDS A., B.S. (University of Wisconsin)
Major, United States Marine Corps, Assistant Professor of Naval Science (1981-1981).

ROCKWOOD, DONALD L., Ph.D. (North Carolina State University)
Associate Professor, Forest Resources and Conservation (1974-1981).

RODEHEAVER, JANET LITTLE, M.Ed. (University of Florida)
Assistant Professor of Medical Technology (1961-1967).

RODGERS, EARL G., Ph.D. (Iowa State University)
Professor, Agronomy (1946-1959).

RODMAN, ANNE E., P.A.C. (Baylor University)
Physician's Assistant (1981-1981).

ROESSLER, CHARLES E., Ph.D. (University of Florida)
Professor of Environmental Engineering Sciences (1967-1979).

ROESSLER, GENEVIEVE S., Ph.D. (University of Florida)
Associate Professor of Nuclear Engineering Sciences (1973-1980).

ROLLO, J. MICHAEL, Ed.S. (University of Florida)
Assistant Dean for Student Services and Director, Student Judicial Affairs (1979-1980).

ROMANO, PAUL E., M.D. (Cornell University)
Professor of Ophthalmology (1980-1980).

ROMRELL, LYNN J., Ph.D. (Utah State University)
Associate Professor of Anatomy (1975-1979).

RONGA, JUNE, M.S. (University of Florida)
Clinical Director of Nursing, Psychiatric Division, Shands Teaching Hospital and Clinics, Inc. (1973-1980).

RONK, STERLING L., D.D.S., M.S. (Marshall University)
Assistant Professor of Pediatric Dentistry (1977-1977).

ROOKS, EVELYN ANN, M.H.E. (University of Georgia)
Assistant Professor, Extension Home Economics (1969-1969).

ROOSENRAAD, JON A., Ph.D. (Florida State University)
*Associate Professor of Journalism and Communications and Chairperson, Department of Journalism (1968-1977).**

ROSALSKY, ANDREW JAMES, Ph.D. (Rutgers University)
Assistant Professor of Statistics (1978-1978).

ROSENBAUM, WALTER A., Ph.D. (Princeton University)
*Professor of Political Science (1961-1975).**

ROSENBLOOM, ARLAN L., M.D. (University of Wisconsin)
Professor of Pediatrics and Director of Diabetes Research Center (1968-1974).

ROSENSHEIN, JOSEPH S., Ph.D. (M.I.T.)
*Director of Pre-Professional Education and Lecturer in Physics (1966-1974).**

ROSS, CLAUDIUS ALLEN, Ph.D. (University of Florida)
Professor of Engineering Sciences, Eglin AFB (1958-1976).

ROSS, DORENE D., Ed.D. (University of Virginia)
Assistant Professor of Education (1979-1979).

ROSS, JOHN J., M.D. (Harvard University)
Professor of Pediatrics and Chief of Pediatric Neurology (1965-1974).

ROSS, MICHAEL H., Ph.D. (New York University)
Professor and Chairman, Department of Anatomy (1971-1976).

ROSS, STEVEN, PA-C (University of Florida)
Physician's Assistant (1978-1981).

ROSS, WARREN E., M.D. (University of Florida)
Assistant Professor of Medicine (1978-1978).

ROTHMAN, HOWARD BARRY, Ph.D. (Stanford University)
Associate Professor of Speech (1969-1976).

ROTHWELL, DONALD FREDERICK, Ph.D. (Purdue University)
Professor, Soil Science (1948-1971).

ROW, ANDREW WILLIAM, M.A. (University of Michigan)
Instructor in Mathematics (1958-1958).

ROWE, MARY BUDD, Ph.D. (Stanford University)
Professor of Education (1972-1974).

ROWLAND, NEIL E., Ph.D. (University of London)
Associate Professor of Psychology (1981-1981).

RUBIN, MELVIN L., M.D. (University of California)
Professor and Chairman of Ophthalmology, and Director of Resident Training Program (1963-1978).

RUBIN, MICHAEL ROBERT, M.D. (St. Louis University)
Instructor in Medicine (1981-1981).

RUBIN, STEPHEN, J.D. (Columbia University)
Professor of Law (1972-1977).

RUDGERS, JAMES T., B.S. (S.U.C.)
Assistant Football Coach (1981-1981).

RUELKE, OTTO CHARLES, Ph.D. (University of Wisconsin)
Professor, Agronomy (1955-1969).

RUFFIN, WILLIAM C., JR., M.D. (University of North Carolina)
Professor of Psychiatry and Chief of Staff, Shands Teaching Hospital and Clinics, Inc. (1959-1978).

RUMLEY, THOMAS D. JR., M.D. (University of North Carolina)
Assistant Professor of Surgery, VAMC (1980-1980).

RUMMEL, RAYMOND ALFRED, B.S. (University of Pittsburgh)
Associate Professor of Materials Science and Engineering (1959-1979).

RUSHEFSKY, MARK E., Ph.D. (State University of New York at Binghamton)
Assistant Professor of Political Science (1978-1978).

RUSSELL, STEPHEN W., D.V.M., Ph.D. (University of California)
Professor and Division Director, Division of Comparative Pathology, College of Veterinary Medicine (1980-1980).

RUSSO, LOUIS, M.D. (New York University)
Assistant Professor and JHEP Chairman JHEP (1979-1979).

RUTH, BYRON E., Ph.D. (West Virginia University)
Professor of Civil Engineering (1970-1977).

RUTLEDGE, JOHN ANDREW, Ed.D. (North Carolina State University)
Assistant Professor, 4-H and Other Extension Youth Programs (1979-1979).

RYAN, MARY PATRICIA, M.A.E., (University of North Carolina, Greensboro)
Assistant Professor of Physical Education (1969-1969).

RYAN, MIMI, M.Ed. (University of North Carolina, Greensboro)
Women's Golf Coach (1974-1974).

RYAN, STEPHEN D., Ph.D. (Iowa State University)
Assistant Professor (District Extension Director), Florida Cooperative Extension Service (1976-1980).

RYERSON, EUGENE G., M.D. (New Jersey Medical School)
Assistant Professor of Medicine (1979-1979)

RYSCHKEWITSCH, GEORGE EUGENE, Ph.D. (Ohio State University)
Professor of Chemistry (1956-1965).

RYTHER, JOHN H., Ph.D. (Harvard University)
Professor, Forest Resources and Conservation (1981-1981).

SABATELLA, JOSEPH J., M.F.A. (University of Illinois)
Dean, College of Fine Arts and Professor of Art (1959-1975).

SABIN, JOHN R., Ph.D. (University of New Hampshire)
Professor of Physics and Chemistry (1970-1977).

SAFA, HELEN I., Ph.D. (Columbia University)
Director, Center for Latin American Studies and Professor of Anthropology (1980-1980).

SAGA-RUMLEY, SEGUNDIA A., M.D. (University of Philippines)
Associate Professor of Anesthesiology, VAH (1973-1981).

SAILER, REECE I., Ph.D. (Kansas University)
Graduate Research Professor, Entomology and Nematology (1973-1973)

SAMUEL, JOHN ALTON, M.S.E. (University of Florida)
Associate Professor of Mechanical Engineering (1954-1967).

SAND, ROBERT SHERMAN, Ph.D. (University of Kentucky)
Associate Professor, Animal Science (1971-1977).

SANDEEN, C. ARTHUR, Ph.D. (Michigan State University)
Vice President for Student Affairs and Professor of Education (1973-1973).

SANDERS, WILLIE, B.S.E. (University of Florida)
Associate Professor of Anatomy and Occupational Therapy and Director of State Anatomical Board and Office of Minority Relations (1968-1979).

SANDERSON, ROSALIE M., M.L.S. (University of California at Berkeley)
Assistant Librarian (1980-1980).

SANDERSON, STEVEN E., Ph.D. (Stanford University)
Assistant Professor of Political Science (1979-1979).

SANDOR, GEORGE NASON, D.Eng.Sc. (Columbia University)
Research Professor of Mechanical Engineering (1976-1976).

SANFORD, MALCOLM T., Ph.D. (University of Georgia)
Associate Professor, Entomology and Nematology (1981-1981).

SARRETT, DAVID C., D.M.D. (University of Florida)
Assistant Professor of Operative Dentistry (1978-1979).

SASEK, JOSEPH A., M.Ed. (University of Florida)
Development Director, College of Business Administration (1980-1980).

SARTAIN, JERRY B., Ph.D. (North Carolina State University)
Associate Professor, Soil Science (1974-1979).

SAVITT, TODD L., Ph.D. (University of Virginia)
Associate Professor of Community Health and Family Medicine (1976-1981).

SAW, JOHN GREENVILLE, Ph.D. (University of London)
Professor of Statistics (1965-1969).

SAXON, JOHN P., Ph.D. (University of Georgia)
Associate Professor of Rehabilitation Counseling (1971-1976).

SAXON, STEPHEN APPOLLOS, Ph.D. (Florida State University)
Associate Professor of Mathematics (1969-1975).

SCANLON, DENNIS C., Ph.D. (Ohio State University)
Visiting Assistant Professor, Agricultural and Extension Education (1980-1981).

SCARRATT, WILLIAM K., D.V.M. (University of Saskatchewan)
Assistant Professor, Department of Medical Sciences, College of Veterinary Medicine (1978-1978).

SCHAEFER, HADLEY P., Ph.D. (University of Michigan)
Professor and Director of Accounting (1980-1980).

SCHAER, MICHAEL, D.V.M. (University of Illinois)
Associate Professor, Department of Medical Sciences, College of Veterinary Medicine (1979-1979).

SCHAFFER, GERALD, B.S.B.A. (University of Tampa)
Associate Vice President for Administrative Affairs, (1964-1981)..

SCHANK, STANLEY COX, Ph.D. (University of California)
Professor, Agronomy (1961-1973).

SCHAUB, JAMES HAMILTON, Ph.D. (Purdue University)
*Professor of Civil Engineering and Chairperson of the Department (1969-1969) **

SCHAUBLE, PAUL G., Ph.D. (Michigan State University)
Counseling Psychologist, University Counseling Center, Professor of Psychology, Counselor Education (1970-1975).

SCHEAFFER, RICHARD LEWIS, Ph.D. (Florida State University)
Chairperson and Professor, Statistics Department (1967-1977).

SCHEFFER, GEORGE, M.A. Arch. (University of Florida)
Associate Professor of Architecture (1969-1977).

SCHENCK, NORMAN C., Ph.D. (University of Illinois)
Professor, Plant Pathology (1956-1968).

SCHENKER, PAMELA S., M.S. (University of Florida)
Assistant in Research, Bureau of Economic and Business Research (1979-1979)

SCHENZINGER, VIRGINIA L., M.N. (University of Florida)
Assistant Professor, College of Nursing/JHEP (1979-1979).

SCHER, RICHARD KING, Ph.D. (Columbia University)
Associate Professor of Political Science (1972-1977)

SCHIEBLER, GEROLD LUDWIG, M.D., Ph. D. (Harvard Medical School)
Professor and Chairman, Department of Pediatrics (1960-1968)

SCHLENKER, BARRY R., Ph.D. (State University of New York at Albany)
Professor of Psychology (1972-1976).

SCHMELING, GARETH L., Ph.D. (University of Wisconsin)
Professor and Chairman of Classics, Director of the Center Studies for the Humanities (1970-1975).

SCHMID, GERHARD MARTIN, Ph.D. (Innsbruck University)
Associate Professor of Chemistry and Assistant Chairperson of Department of Chemistry (1964-1974).

SCHMID, REX E., Ed.D. (University of Virginia)
Associate Professor of Special Education (1976-1979)..

SCHMIDT, PATRICIA LOIS, Ph.D. (Pennsylvania State University)
Associate Dean for Research and Associate Professor of Behavioral Studies and English (1973-1981).

SCHMIDT, ROBERT ALLEN, Ph.D. (Pennsylvania State University)
Professor, Forest Resources and Conservation (1967-1981).

SCHMIDT, ROBERT REINHART, Ph.D. (Virginia Polytechnic Institute and State University)
Professor and Chairman, Microbiology and Cell Science (1980-1980).

SCHMIDT, RONALD H., Ph.D. (University of Minnesota)
Associate Professor, Food Science and Human Nutrition (1974-1979).

SCHMINK, MARIANNE C., Ph.D. (University of Texas)
Visiting Assistant Professor of Latin American Studies (1980-1980).

SCHMITT, JOHN P., Ph.D. (University of Florida)
Assistant Professor in Health Services Administration (1979-1980).

SCHNEIDER, RICHARD HAROLD, Ph.D. (University of Florida)
Assistant Professor of Urban and Regional Planning and Associate Director of Florida Architecture and Building Research Center (1973-1981).

SCHNEIDER, RICHARD THEODOR, Ph.D. (Technical University, Stuttgart, Germany),
*Professor of Nuclear Engineering Sciences (1965-1968).**

SCHNEIDER, ROBERT K., D.V.M. (University of California) M.S. (Ohio State University)
Assistant Professor, Department of Surgical Sciences, College of Veterinary Medicine (1979-1979).

SCHOENAU, RONALD HELMUTH, B.S. (University of Florida)
Director, NERDC (1962-1975).

SCHOENFELD, THOMAS A., Ph.D., (Rutgers University)
Assistant Research Scientist (1980-1980).

SCHOESSOW, GLEN JOHN, M.S.M.E. (Purdue University)
Professor of Nuclear Engineering Sciences (1958-1958).

SCHOLES, ROBERT JAMES, Ph.D. (University of Indiana)
Professor of Speech and Linguistics (1966-1976).

SCHRAMM, HAROLD L., JR., Ph.D. (Southern Illinois University)
Assistant Professor, Forest Resources and Conservation (1979-1979).

SCHRODER, VINCENT N., Ph.D. (Duke University)
Associate Professor, Agronomy (1955-1969).

SCHUERMAN, DONALD W., Ph.D. (University of Rochester, New York)
Associate Research Scientist of Astronomy (1980-1980).

SCHULKIND, MARTIN LEWIS, M.D. (University of Chicago)
Associate Professor of Pediatrics and Community Health and Family Medicine (1965-1972).

SCHULMAN, STEPHEN GREGORY, Ph.D. (University of Arizona)
Professor of Pharmacy (1970-1977).

SCHULTETUS, RAYMOND R., Ph.D.,M.D. (University of Kentucky)
Assistant Professor of Anesthesiology (1979-1980).

SCHUNCKE, GEORGE M., Ph.D. (Stanford University)
Associate Professor (1974-1980).

SCHUSTER, DAVID JAMES, Ph.D. (Oklahoma State University)
Associate Professor, Entomology and Nematology, AREC-Bradenton (1975-1980).

SCHUTTE, OFELIA M., Ph.D. (Yale University)
Assistant Professor of Philosophy (1978-1979).

SCHWARTZ, MICHAEL AVERILL, Ph.D. (University of Wisconsin)
Professor and Dean, College of Pharmacy (1978-1978).

SCHWARTZ, STUART ELLIS, Ed.D. (University of Kansas)
Associate Professor of Special Education (1974-1979).

SCHWASSMANN, HORST O., Ph.D. (University of Wisconsin)
Professor of Zoology (1972-1978).

SCIADINI, FRANK, M.A. (University of Florida)
Assistant Professor of English, Adviser (1960-1965).

SCORNIK, JUAN C., M.D. (University of La Plata)
Associate Professor of Pathology (1976-1981).

SCOTT, ELOIS SKEEN, Ph.D. (University of Michigan)
Associate Professor of Instructional Resources (1977-1980).

SCOTT, JAMES E., Ph.D. (University of Michigan)
Dean for Student Services (1981-1981).

SCOTT, JERRIE C., Ph.D. (University of Michigan)
Assistant Professor of English (1977-1977).

SCOTT, JOHN F., Ph.D. (Columbia University)
Associate Professor of Art (1981-1981).

SCOTT, JOHN W., Ph.D. (Ohio State University)
Assistant Professor, Vegetable Crops, AREC-Bradenton (1981-1981).

SCOTT, KATHERINE NASFAY, Ph.D. (University of Florida)
Associate Research Professor VAMC (1968-1977).

SCOTT, RICHARD R., Ph.D. (Harvard)
Assistant Professor of Psychology (1976-1976).

SCOTT, THOMAS MCDONALD, M.A.E. (University of Florida)
Associate Professor of Physical Education (1949-1977).

SCOTT, THOMAS W., M.A. (University of South Carolina)
Development Director, Intercollegiate Athletics (1981-1981).

SCROGGIE, EVERETT, JR., M.A. (University of Tennessee)
Assistant Professor of Communicative Disorders (1966-1968).

SCUDDER, WALTER TREDWELL, Ph.D. (Cornell University)
Professor, Vegetable Crops, AREC-Sanford (1955-1968).

SCULLY, GERRIE L., M.S.N. (University of California)
Assistant Professor, College of Nursing (1977-1979).

SEAMAN, WILLIAM, Ph.D. (University of Florida)
Assistant Professor, Forest Resources and Conservation; Assistant Director of SUS Sea Grant College (1971-1972).

SEILER, GARY D., Ed.D. (University of Massachusetts)
Assistant Professor of Education (1974-1975).

SELF, MORRIS WALDT, Ph.D. (University of Minnesota)
Professor of Civil Engineering (1966-1966).

SELFRIDGE, RALPH G., Ph.D. (University of Oregon)
Professor of Computer and Information Sciences, College of Engineering (1961-1965).

SELMAN, KELLY E., Ph.D. (Harvard University)
Associate Professor of Anatomy (1974-1979).

SENIOR, DAVID F., B.V.Sc. (University of Melbourne)
Assistant Professor, Department of Medical Sciences, College of Veterinary Medicine (1979-1979).

SENTERFITT, VERNON, Ph.D. (University of Florida)
Director, Teaching Laboratory Resources, J. Hillis Miller Health Center (1968-1974).

SETZER, EMMALEE, M.D. (University of Alabama)
Assistant Professor of Pediatrics (1978-1978).

SEVERY, LAWRENCE J., Ph.D. (University of Colorado)
Associate Professor of Psychology (1971-1975).

SHAAK, GRAIG D., Ph.D. (University of Pittsburgh)
Assistant Curator of Invertebrate Paleontology, Associate in Museum Administration and Associate Director, Florida State Museum, Joint Associate Professor of Zoology, Geology, and Latin American Studies (1972-1981).

SHAARA, RICHARD BENSON, M.D. (University of Texas)
Director, Student Health Service (1969-1974).

SHAFAGH, IRA J., D.M.D., M.S. (University of Pennsylvania)
Associate Professor of Occlusion and Fixed Prosthodontics (1981-1981).

SHAFER, WILLARD G., M.M.E. (Rensselaer Polytechnic Institute)
Associate Professor of Civil Engineering (1981-1981).

SHAFFER, CHARLES VERNON, Ph.D. (Stanford University)
Professor of Electrical Engineering (1946-1966).

SHAH, DAPNE, M.S.N. (Loma Linda University)
Assistant Professor of Nursing (1980-1980).

SHAH, DINESH O., Ph.D. (Columbia University)
Professor of Anesthesiology and Chemical Engineering (1970-1975).

SHANAHAN, MIKE, M.S. (Eastern Illinois University)
Football Offensive Coordinator (1980-1980).

SHANDS, JOSEPH W. JR., M.D. (Duke University)
Professor of Medicine and Chief of Infectious Diseases, and Professor, Medical Microbiology (1961-1970).

SHANKLAND, DANIEL L., Ph.D. (University of Illinois)
Professor and Chairman, Entomology and Nematology (1980-1980).

SHANMUGAM, KEELNATHAM, Ph.D. (University of Hawaii)
Associate Professor, Microbiology and Cell Science (1980-1981).

SHANOR, LELAND, Ph.D. (University of North Carolina), D.Sc. (Illinois Wesleyan University)
Professor of Botany (1965-1965).

SHARP, BERT LAVON, Ed.D. (University of Florida)
*Dean Emeritus, Professor of Education (1963-1981).**

SHARP, DANIEL COMPTON, III, Ph.D. (University of Massachusetts)
Associate Professor, Animal Science (1973-1978).

SHAW, HARRY B., Ph.D. (University of Illinois)
Associate Dean of the College of Liberal Arts and Sciences, and Associate Professor of English (1973-1977).

SHAW, LAWRANCE NEIL, Ph.D. (Ohio State)
Professor, Agricultural Engineering (1969-1979).

SHAW, LELAND G., M.Arch. (University of California)
Professor of Architecture (1964-1976).

SHAW, MARVIN EVERT, Ph.D. (University of Wisconsin)
Professor of Psychology (1959-1962).

SHAW, ROBERT B., Ph.D. (Texas A&M University)
Assistant Professor Forest Resources and Conservation (1980-1980).

SHEA, JOSEPH J., Ph.D. (University of Michigan)
Associate Professor in Education (1967-1971).

SHEARER, J.J., M.S. (University of Florida)
Systems Coordinator (1978-1981).

SHEEHAN, THOMAS JOHN, Ph.D. (Cornell University)
Professor, Ornamental Horticulture (1954-1967).

SHEFFIELD, STEVEN C., M.B.A. (University of Florida)
Assistant in Research, Bureau of Economic and Business Research (1980-1980).

SHEHAN, CONSTANCE, Ph.D. (Pennsylvania State University)
Assistant Professor of Sociology (1981-1981).

SHELDON, ROBERT, M.F.A. (University of Florida)
University School Instructor, P.K. Yonge Laboratory School (1980-1980).

SHELLEY, ARTHUR R., J.D. (University of Virginia)
Assistant Dean and Lecturer (1980-1980).

SHELTON, DAVID LESLIE, Ph.D. (University of Missouri)
Associate Professor of Theatre (1974-1979).

SHEMDIN, OMAR H., Ph.D. (Stanford University)
Professor of Coastal and Oceanographic Engineering, Professor of Engineering Sciences (1967-1974).

SHEN, CHIAYI, Ph.D. (University of Cincinnati)
Assistant Professor and Acting Chairman of Dental Biomaterials (1979-1981).

SHENKMAN, FREDERICK ALAN, Ed.D. (University of Florida)
Assistant Professor of Criminal Justice and Education (1969-1971).

SHEPPARD, DONALD MAX, Ph.D. (Arizona State University)
Associate Professor of Coastal and Oceanographic Engineering and Acting Chairman of Coastal and Oceanographic Engineering (1968-1978).

SHERMAN, MARK, Ph.D. (Cornell University)
Assistant Professor, Vegetable Crops (1980-1980).

SHERMAN, ROBERT R., Ed.D. (Rutgers University)
Professor and Chairperson of Education Foundations (1967-1977).

SHERMAN, WAYNE BUSH, Ph.D. (Purdue University)
Professor, Fruit Crops (1966-1978).

SHIELDS, DOROTHY ANN, M.Ed. (University of North Carolina)
Associate Professor of Professional Physical Education (1962 -1974).

SHIELDS, P. DAVID, Ph.D. (University of Michigan)
Assistant Professor of Accounting (1979-1979).

SHIELDS, ROBERT P., D.V.M. (Auburn) Ph.D. (Michigan State University)
Associate Professor, Division of Comparative Pathology College of Veterinary Medicine (1973-1979).

SHIH, JULIE WEN-FU P., M.S. (North Carolina State University)
Assistant in Research, Bureau of Economic and Business Research (1979-1979).

SHIH, SUN-FU, Ph.D. (North Carolina State University)
Associate Professor, Agricultural Engineering, AREC-Belle Glade (1976-1976).

SHILLE, VICTOR M., D.V.M., Ph.D. (University of California at Davis)
Associate Professor, Department of Reproduction, College of Veterinary Medicine (1978-1978).

SHIREMAN, JEROME VERN, Ph.D. (Iowa State University)
Professor, Forest Resources and Conservation (1973-1980).

SHIREMAN, RACHAEL, Ph.D. (University of Florida)
Assistant Professor, Food Science and Human Nutrition (1979-1979).

SHIRLEY, RAY LOUIS, Ph.D. (Michigan State University)
Professor, Animal Science (1949-1953).

SHIVERICK, KATHLEEN T., Ph.D. (University of Vermont)
Assistant Professor of Pharmacology and Therapeutics (1978-1978).

SHOKES, FREDERICK MILTON, Ph.D. (University of Georgia)
Assistant Professor, Plant Pathology, AREC-Quincy (1978-1978).

SHONKWILER, J. SCOTT, Ph.D. (University of Missouri)
Assistant Professor, Food & Resource Economics (1979-1979).

SHORT, DONALD EUGENE, Ph.D. (University of Nebraska)
Professor, Entomology and Nematology (1970-1980).

SHOUP, W. DAVID, Ph.D. (Purdue University)
Assistant Professor, Agricultural Engineering (1980-1980).

SHREVE, WILLIAM B., JR., D.D.S. (Case Western Reserve University)
Professor of Basic Dental Science and Associate Dean, College of Dentistry (1975-1980).

SHUMAKER, JAMES R., Ph.D. (University of Minnesota)
Associate Professor, Vegetable Crops, ARC-Hastings (1967-1973).

SHUSTER, JONATHAN J., Ph.D. (McGill University)
Professor of Statistics (1969-1980).

SIDEN, EDWARD I., Ph.D. (University of California at San Diego)
Assistant Professor of Immunology and Medical Microbiology (1980-1980).

SIDERS, RONALD ALLEN, Ph.D. (University of Oregon)
Associate Professor of Professional Physical Education (1974-1980).

SIDMAN, CHARLES F., Ph.D. (Wisconsin University))
Dean, College of Liberal Arts and Sciences, and Professor of History (1978-1978).

SIEBEIN, GARY W., M.Arch. (University of Florida)
Assistant Professor of Architecture (1980-1980).

SIEG, KAY W., M.Ed. (University of Florida)
Associate Professor of Occupational Therapy (1971-1976).

SIEGEL, LAWRENCE, Ph.D. (Case Western Reserve University)
Associate Professor of Clinical Psychology (1981-1981)..

SIERAKOWSKI, ROBERT L., Dr.Eng. (Yale University)
Professor of Engineering Sciences (1967-1973).

SIGMON, KERMIT N., Ph.D. (University of Florida)
Associate Professor of Mathematics (1966-1978).

SIKIVIE, PIERRE, Ph.D. (Yale University)
Assistant Professor of Physics and Mathematics (1981-1981).

SILK, NOELLE, M.S. (Florida Atlantic University)
University School Instructor, P.K. Yonge Laboratory School (1980-1981).

SILVERMAN, DAVID N., Ph.D. (Columbia University)
Professor of Pharmacology and Therapeutics (1971-1980).

SILVERSTEIN, JANET H., M.D. (University of Pennsylvania)
Assistant Professor of Community Health and Family Medicine and Pediatrics (1978-1979).

SIMMONS, JOHN K., Ph.D. (Ohio State University)
Professor of Accounting (1974-1980).

SIMMONS, WILLIE J., Ph.D. (University of Florida)
Director, Institute of Black Culture (1975-1975).

SIMON, THOMAS W., Ph.D. (Washington University)
Associate Professor of Philosophy (1973-1979).

SIMONE, GARY W., Ph.D. (University of Illinois)
Assistant Professor, Plant Pathology (1977-1977).

SIMPKINS, JAMES WILLIAM, Ph.D. (Michigan State University)
Assistant Professor of Pharmacy (1977-1977).

SIMPSON, CHARLES FLOYD, D.V.M. (Cornell University) Ph.D. (University of Minnesota),
Professor, Preventive Medicine, College of Veterinary Medicine, IFAS (1948-1973).

SIMPSON, JAMES R., Ph.D. (Texas A & M University)
Associate Professor, Food and Resource Economics (1977-1977).

SIMRING, MARVIN, D.D.S. (New York University))
Associate Professor of Periodontics (1979-1979).

SINGERMAN, ROBERT, M.A. (Xavier University)
Associate Librarian, Judaica Library (1979-1979).

SINGH, MECH, Ph.D. (University of Florida)
Assistant Professor, Agronomy, AREC-Lake Alfred (1980-1980).

SINGLETON, GEORGE T., M.D. (Baylor University)
Professor of Surgery and Chief of Otolaryngology, VAMC (1961-1977).

SINGLEY, J. EDWARD, Ph.D. (University of Florida)
Professor of Environmental Engineering Sciences and Director of Center for Training Research and Education for Environmental Occupations (1967-1978).

SIPE, NEIL G., M.A. (University of Florida)
Assistant in Research, Bureau of Economic and Business Research (1980-1980).

SISLER, HARRY HALL, Ph.D. (University of Illinois)
Distinguished Service Professor of Chemistry (1956-1979).

SITREN, HARRY S., Ph.D. (Rutgers University)
Assistant Professor, Food Science and Human Nutrition (1980-1980).

SIVAZLIAN, BOGHOS D., Ph.D. (Case Institute of Technology)
Professor of Industrial and Systems Engineering (1966-1972).

SKELLEY, ROBERT CHARLES, M.F.A. (Indiana University)
Professor of Art (1962-1978).

SKORA, IRENA A., M.D. (Jagiellonski University)
Associate Professor and JHEP Chairman (1980-1980).

SKORHEIM, MARY A., M.A. (University of North Dakota)
Assistant Dean for Student Services (1979-1979).

SLANSKY, FRANK, JR., Ph.D. (Cornell University)
Assistant Professor, Entomology and Nematology (1980-1980)..

SLAYMAKER, CAROLYN J., M.A. (New York UUniversity)
Associate Professor of Occupational Therapy (1966-1975).

SLOAN, KENNETH BERRY, Ph.D. (University of Missouri)
Assistant Professor of Medicinal Chemistry (1980-1980).

SLOAN, NORM, B.A. (North Carolina State University)
Head Basketball Coach (1980-1980).

SLOWIK, CAROL, B.S.P.E. (University of Delaware)
Women's Track Coach (1979-1979).

SMALL, PARKER ADAMS, JR., M.D. (University of Cincinnati)
Professor of Immunology and Medical Microbiology (1966-1966)

SMALL, TERENCE SAMUEL, M.A. (Western Reserve University)
Professor of Music (1964-1975).

SMAJSTRLA, ALLEN GEORGE, Ph.D. (Texas A&M University)
Assistant Professor, Agricultural Engineering (1977-1977).

SMART, GROVER C., JR., Ph.D. (University of Wisconsin)
Professor, Entomology and Nematology (1964-1973).

SMERAGE, GLEN HUNTINGTON, Ph.D. (Stanford University)
Associate Professor, Agricultural Engineering (1976-1976).

SMEYAK, GERALD P., Ph.D. (Ohio State University)
Professor of Journalism and Communications and Chairperson, Department of Broadcasting (1978-1978).

SMITH, ALBERT B., Ph.D. (University of North Carolina)
Professor of Romance Languages (1963-1977).

SMITH, ALBERT BARNES, III, Ph.D. (University of Michigan)
Professor of Education (1970-1981).

SMITH, ALEXANDER GOUDY, Ph.D. (Duke University)
Professor of Astronomy and Physics (1948-1956).

SMITH, CECIL NUCKOLS, Ph.D. (University of California)
*Professor, Food and Resource Economics (1952-1963).**

SMITH, DAVID C., Ph.D. (Northwestern University)
Dean and Professor of Education (1978-1978).

SMITH, DAVID J., Ph.D. (Ohio University)
Associate Professor of English (1981-1981).

SMITH, DAVID THORNTON, J.D. (Boston University)
Professor of Law (1968-1969).

SMITH, DOUGLAS LEE, Ph.D. (University of Minnesota)
Associate Professor of Geology (1972-1976).

SMITH, EMMETT DAN, Ph.D. (Ohio State University)
Associate Professor of Accounting (1970-1976).

SMITH, GREGORY E., D.D.S., M.S.D. (University of Washington)
Professor and Chairman of Operative Dentistry (1979-1979).

SMITH, HALBERT C., D.B.A. (University of Illinois)
Professor of Real Estate and Urban Analysis (1971-1971).

SMITH, HAYWOOD CLARK, JR., Ph.D. (University of Virginia)
Associate Professor of Astronomy (1979-1979).

SMITH, HERRICK HAYNER, M.S., M.L.A. (University of Georgia)
Program Director and Professor of Landscape Architecture (1966-1971).

SMITH, JACK REGINALD, Ph.D. (University of Southern California)
Professor of Electrical Engineering and Psychiatry (1964-1970).

SMITH, JO ANNE, M.A. (University of Minnesota)
*Professor of Journalism and Communications (1959-1976).**

SMITH, JULIAN, M.A. (Tulane University)
Associate Professor of English (1977-1977).

SMITH, KENNETH L., Ph.D. (University of Missouri)
Associate Professor, Food Science and Human Nutrition, and Associate Professor,Microbiology and Cell Science (1960-1966).

SMITH, LINDELL, B.A. (Sheppard College)
University School Provisional Instructor, P.K. Yonge Laboratory School (1980-1981).

SMITH, MILDRED F., Ph.D. (University of Maryland)
Assistant Professor, Florida Cooperative Extension Service (1977-1979).

SMITH, NAN S., M.F.A. (Ohio State University)
Assistant Professor of Art (1979-1979)..

SMITH, NIGEL J.H., Ph.D. (University of California at Berkeley)
Associate Professor of Geography (1981-1981).

SMITH, PAUL H., Ph.D. (University of California))
Professor, Microbiology and Cell Science, (1959-1979).

SMITH, RED LANEL, Ph.D. (Iowa State University)
Professor, Agronomy (1968-1978).

SMITH, RICHARD CLARK, Ph.D. (Duke University)
Professor of Botany, Arts and Sciences (1964-1977).

SMITH, RICHARD T., M.D. (Tulane University)
Professor and Chairman of Pathology (1958-1967).

SMITH, ROBERTS COLES, JR., B.A. (University of Florida)
Assistant Professor, IFAS Editorial (1961-1961).

SMITH, STANLEY K., Ph.D (University of Michigan)
Associate Professor of Economics, Associate Professor, Bureau of Economic and Business Research (1976-1976).

SMITH, W. MARTIN, JR., B.A. (Marshall University)
Professional Insurance Coordinator, J. Hillis Miller Health Center Liability Trust Fund (1975-1976).

SMITH, WAYNE H., Ph.D. (Mississippi State University)
Director, Center for Environmental and Natural Resources Programs; Director, Center for Biomass Energy Systems; Professor, Forest Resources and Conservation, IFAS (1964-1978).

SMITH, WAYNE P., Ph.D. (North Carolina State University)
Assistant Professor (District Extension Director), Florida Cooperative Extension Service (1980-1980).

SMITH, WILLIAM HOWARD, P.Ed. (Lousiana State University)
Associate Professor (District Extension Director), Florida Cooperative Extension Service (1958-1971).

SMUTZ, MORTON, Ph.D. (University of Wisconsin)
Professor of Chemical Engineering (1969-1979).

SNIDER, M. JOSEPHINE, Ed.D. (University of Florida)
Associate Professor, College of Nursing (1965-1979).

SNODGRASS, CHRIS G., Ph.D. (State University of New York at Buffalo)
Associate Professor of English (1973-1978).

SNOWBALL, DOUGLAS A.T., Ph.D. (University of Washington)
Associate Professor and Assistant Director Accounting (1975-1980).

SNOWDEN, SANDRA E., M.S. (University of Florida)
Assistant in Plant Pathology, AREC-Bradenton (1980-1980).

SNYDER, DAVID M., M.B.A. (Cornell University)
Director of Professional Services, Shands Teaching Hospital and Clinics, Inc. (1977-1981).

SNYDER, GEORGE H., Ph.D. (Ohio State University)
Professor, Soil Science, AREC-Belle Glade, (1967-1979).

SOAR, ROBERT STEPHEN, Ph.D. (University of Minnesota)
Professor of Education (1966-1966).

SOARES, GLAUCIO ARY DILLON, Ph.D. (Washington University, St. Louis)
Professor of Latin American Studies and Sociology (1974-1975).

SODERHOLM, KARL-JOHAN, D.D.S., M.S. (University of Umea, Sweden)
Assistant Professor of Dental Biomaterials (1981-1981).

SOLIS, MANUEL MAVRICIO, M.S. (University of Florida)
Associate Professor of Architecture (1969-1975).

SOLOMON, MIKIL, M.A. (University of Florida)
University School Instructor, P.K. Yonge Laboratory School (1979-1979).

SOMMERVILLE, C. JOHN, Ph.D. (University of Iowa)
Associate Professor of History (1971-1977).

SONODA, RONALD MASAHIRO, Ph.D. (University of California)
Professor, Plant Pathology, AREC-Ft. Pierce (1969-1981).

SOONG, JOHN, M.D. (University Hospital of the West Indies)
Assistant Professor of Radiology/VAMC (1979-1979).

SORTINO, LINDA, M.S. (University of Illinois)
Clinical Director of Nursing, Maternal Child Division, Shands Teaching Hospital and Clinics, Inc. (1980-1980).

SOULE, JAMES, Ph.D. (University of Florida)
Professor, Fruit Crops (1956-1967).

SPANGLER, BYRON DEMENT, M.S.E. (University of Florida)
Professor of Civil Engineering (1949-1971).

SPANGLER, DANIEL PATRICK, Ph.D. (University of Arizona)
Associate Professor of Geology (1973-1976).

SPANIER, JOHN WINSTON, Ph.D. (Yale University)
*Professor of Political Science (1957-1967).**

SPANIER, SUZANNE D., M.D. (University of Florida)
Associate Professor of Orthopaedic Surgery (1975-1981).

SPARKS, LINDA FRANCES, M.S. in L.S.
Associate Librarian, Education Library (1961-1970)

SPENCER, CRISPIN P., D.V.M. (University of Georgia)
Assistant Professor, Department of Special Clinical Sciences, College of Veterinary Medicine (1977-1977).

SPILLANE, RITA, MSN (Boston College)
Assistant Professor, College of Nursing (1979-1980).

SPINKS, DANIEL D., Ph.D. (North Carolina State University)
Associate Dean for Resident Instruction and Professor, Soil Science, (1947-1971).

SPITZER, A. L., J.D. (University of Iowa)
Assistant Professor of Law (1979-1979).

SPOHR, ROBERT W., M.D. (Vanderbilt University)
Assistant Professor of Anesthesiology (1980-1980).

SPREEN, THOMAS H., Ph.D. (Purdue University)
Assistant Professor, Food and Resource Economics (1977-1977).

SPRENKEL, RICHARD K., Ph.D. (University of Illinois)
Assistant Professor, Entomology and Nematology (1979-1979).

SPRING, ANITA, Ph.D. (Cornell University)
Associate Professor of Anthropology (1973-1978).

SPRINGER, PHILIP K., M.D. (University of Mississippi)
Assistant Professor of Psychiatry (1977-1977).

SPRINGFIELD, DEMPSEY S., M.D. (University of Florida)
Assistant Professor of Orthopaedic Surgery (1978-1978).

SPRUILL, VICTOR F., M.S. (Missouri School of Mines and Metallurgy)
Associate Professor of Building Construction (1980-1981).

SPURLOCK, CARL W., Ph.D. (University of Oklahoma)
Associate Professor of Geography (1972-1978).

SRULL, THOMAS K., Ph.D. (University of Illinois)
Assistant Professor of Psychology (1979-1979).

SRYGLEY, TED FILO, M.S. (University of Illinois)
Director, J. Hillis Miller Health Center Library (1966-1966).

ST. JACQUES, ERNEST HOWARD, Ph.D. (George Peabody College)
Dean of Academic Affairs for Matriculation Services and Associate Professor of Social Sciences (1969-1973).

STACPOOLE, PETER W., M.D., Ph.D. (Vanderbilt University)
Assistant Professor of Medicine (1980-1980).

STAHMER, HAROLD M., Ph.D. (Cambridge University)
Professor of Religion and Philosophy (1969-1969).

STAINSBY, WENDELL N., SC.D. (John Hopkins University)
Professor of Physiology (1957-1969).

STALL, ROBERT EUGENE, Ph.D. (Ohio State University)
Professor, Plant Pathology (1957-1969).

STALL, WILLIAM M., Ph.D. (University of Florida)
Associate Professor, Vegetable Crops (1980-1980).

STANLEY, CRAIG D., Ph.D. (Iowa State University)
Assistant Professor, Soil Science, AREC-Bradenton (1979-1979).

STANLEY, HAROLD R., D.D.S., M.S. (University of Maryland)
Professor and Chairman of Oral Medicine, and Professor of Pathology (1968-1974).

STANLEY, ROBERT L., JR., Ph.D. (University of Georgia)
Associate Professor, Plant Pathology, AREC-Quincy (1968-1978).

STAPELL, CHRISTINE, M.S. (University of Kentucky)
Assistant Professor and Assistant Program Director in Clinical and Community Dietetics (1977-1981).

STARNES, EARL MAXWELL, Ph D., FAIA (Florida State University)
Chairman and Professor of Urban and Regional Planning (1976-1976).

STRATTON, ROBERT D., M.D. (University of North Carolina)
Assistant Professor of Ophthalmology (1980-1980).

STAUDHAMMER, JOHN, Ph.D. (University of California at Los Angeles)
Professor of Electrical Engineering (1980-1980)

STAYERT, PAUL R., M.A. (University of Florida)
Assistant in Geography (1980-1981).

STEADHAM, CAROLYN I., M.S.N. (University of Florida)
Assistant Professer, College of Nursing (1979-1979).

STECHMILLER, JOYCE, MSN, (University of Maryland)
Assistant Professor, College of Nursing (1979-1979).

STEELE, KATHERINE L., Ed.D. (University of Florida)
Associate Director, Office of Instructional Resources (1974-1974).

STEGELIN, FORREST E., Ph.D. (Oklahoma State University),
Assistant Professor, Food and Resource Economics (1979-1979).

STEHLI, FRANCIS G., Ph.D. (Columbia University)
Dean for Graduate Studies and Research and Professor of Geology and Zoology (1980-1980).

STEIN, GARY S., Ph.D (University of Vermont)
Professor of Biochemistry and Molecular Biology (1972-1979).

STEIN, GERALD H., M.D. (University of Pennsylvania)
Assistant Professor of Medicine (VAMC) and Community Health and Family Medicine and Nursing and Psychology (1969-1972).

STEIN, JANET L., Ph.D. (Princeton University)
Assistant Professor of Immunology, Medical Microbiology, Biochemistry, and Molecular Biology (1976-1976).

STEPHENS, FOY WOODROW, M.P.H. (University of Florida)
Associate Professor of Physical Education (1952-1976).

STEPHENS, JAMES MORRIS, M.S.A. (University of Florida)
Associate Professor, Vegetable Crops (1962-1974).

STERN, GEORGE A., M.D. (U.C.L.A.)
Assistant Professor of Opthalmology (1979-1979).

STERN, WILLIAM LOUIS, Ph.D. (University of Illinois)
Professor and Chairman of Botany, Arts and Sciences (1979-1979).

STERRETT, DELBERT ELLINGSWORTH, Ed.D. (George Peabody College)
Professor of Music (1948-1980).

STEVENS, ANN REBECCA, Ph.D. (University of Colorado)
Associate Professor of Biochemistry, VAH (1968-1974).

STEWART, B., M.A. (University of Florida)
Director, Program for Academic Counseling and Tutoring and Lecturer (1979-1979).

STEWART, IVAN, Ph.D. (Rutgers University)
Professor, Fruit Crops, AREC-Lake Alfred, (1951-1961).

STEWART, RONALD BROR, M.S.P. (University of Florida)
Professor and Chairman, Pharmacy Practice (1963-1980).

STEWART, WILLIAM L., M.D. (Johns Hopkins University)
Professor and Chairman (1980-1980).

STIMAC, JERRY LYNN, Ph.D. (Oregon State University)
Assistant Professor, Entomology and Nematology (1977-1977).

STOFELLA, PETER J., Ph.D. (Cornell University)
Assistant Professor, Vegetable Crops, ARC-Ft. Pierce (1980-1980).

STONE, WILLIAM K., A.B. (Harvard College)
Director of University Development (1973-1979).

STOUFER, ROBERT CARL, Ph.D. (Ohio State University)
Associate Professor of Chemistry (1958-1967).

STOUT, FRANK W., D.D.S. (University of Detroit)
Associate Professor of Oral Medicine (1972-1972).

STOUT, L. RANDALL, D.Min. (Lexington Theological Seminary)
Assistant Director of Pastoral Care, Shands Teaching Hospital and Clinics, Inc. (1978-1978).

STOUT, THOMAS E. JR., B.S. (Texas A&M University)
Captain, U.S. Army, Assistant Professor of Military Science (1979-1979).

STRAIN, J. ROBERT, Ph.D. (Oregon State University)
Professor, Food and Resource Economics (1976-1976).

STREB, FREDERICK J., M.S. (University of Florida)
Captain, U.S. Army, Assistant Professor of Military Science (1980-1980).

STRANDBERG, JAMES OLIVER, Ph.D. (University of Wisconsin)
Professor, Plant Pathology, AREC-Sanford (1967-1979).

STRANGE, LUTHER J., M.B.A. (Samford University)
Assistant Professor of Building Construction (1978-1979).

STRAUGHN, ALTO ALFRED, Ph.D. (University of Wisconsin)
Associate Professor, Florida Cooperative Extension Service (1965-1973).

STRAUS, BARRIE RUTH, Ph.D. (University of Iowa)
Associate Professor of English (1973-1979).

STRAYER, JOHN R., Ph.D. (Clemson University)
Professor, Entomology and Nematology (1965-1975).

STREET, JIMMY JOE, Ph.D. (Colorado State University)
Assistant Professor, Soil Science (1976-1976).

STREETMAN, EVON, B.A. (Florida State University)
Associate Professor of Art (1977-1977).

STREIB, GORDON F., Ph.D. (Columbia University)
Graduate Research Professor of Sociology (1975-1975).

STREIFF, RICHARD R., M.D. (University of Basel)
Professor of Medicine and Chief of Medical Services, VAMC (1967-1974).

STRICKLAND, ALBERT CARSON, M.S. (Florida State University)
Librarian, IFAS Library (1958-1973).

STRINGFELLOW, HART R., Ph.D. (University of Florida)
Assistant Professor of Oral Medicine and Dental Education (1975-1975).

STROHMAN, BARRY R., PA-C (University of Florida)
Physician's Assistant in Community Health and Family Medicine (1976-1981).

STROZIER, VIRGINIA RAGLAND, M.A. (University of Chicago)
*Associate Professor, College of Nursing (1957-1976).**

STURGILL, CLAUDE C., Ph.D. (University of Kentucky)
Professor of History (1969-1977).

SU, SIEW-PHEK T., M.A. (University of Wisconsin)
Assistant Librarian, IFAS Library (1973-1973).

SU, STANLEY Y. W., Ph.D. (University of Wisconsin)
Professor of Computer and Information Sciences, Electrical Engineering, College of Engineering (1970-1978).

SUAREZ, ANDRES, D.C.L. (University of Havana)
Professor of Latin American Studies, History, and Political Science (1965-1965).

SUBRAMANYA, R., Ph.D. (Michigan State University)
Assistant Professor, Vegetable Crops, AREC-Belle Glade (1978-1978).

SUCHMAN, DAVID I., Ph.D. (Ohio State University)
Counseling Psychologist, University Counseling Center; Associate Professor of Psychology (1967-1967).

SULLIVAN, DAVID K., D.M.D. (University of Kentucky)
Instructor of Endodontics (1981-1981).

SULLIVAN, EDWARD THOMAS, D.F. (Duke University)
Associate Professor, Forest Resources and Conservation (1959-1959).

SULLIVAN, ROBERT LEE, Ph.D. (University of Florida)
Professor of Electrical Engineering (1970-1979).

SULLIVAN, WILLIAM J., Ph.D. (Yale University)
Associate Professor of Russian and Linguistics (1970-1975).

SULLWOLD, ARTHUR F., M.D. (Louisiana State University)
Assistant Professor of Psychiatry, VAH (1976-1977).

SUMMERHILL, WILLIAM RODERICK, Ed.D. (North Carolina State University)
Assistant Professor, Florida Cooperative Extension Service (1978-1978).

SUN, CHANG-TSAN, Dr. Eng. (Yale University)
Professor of Engineering Sciences (1979-1979).

SUNDLOF, STEPHEN F., D.V.M. Ph.D. (University of Illinois)
Assistant Professor, Preventive Medicine, College of Veterinary Medicine, IFAS (1980-1980).

SUNWALL, JAMES RAYMOND, Ph.D. (University of Iowa)
Professor of English (1957-1971).

SUSSMAN, LEWIS A., Ph.D. (University of North Carolina)
Associate Professor of Classics (1976-1976).

SUTHERLAND, ALAN DURYEA, Ph.D. (University of Illinois)
*Professor of Electrical Engineering (1958-1965).**

SUTHERLAND, JOHN C., Ph.D. (Michigan State University)
Assistant Professor of Journalism and Communications (1978-1978).

SUTTER, ANN B., M.S.W. (University of Oklahoma)
Instructor of Social Work in Psychiatry (1977-1977).

SUTTON, DAVID LEE, Ph.D. (Virginia Polytechnic Institute)
Professor, Agronomy, AREC-Ft. Lauderdale (1970-1979).

SUZIKI, HOWARD K., Ph.D. (Tulane University)
Professor, College of Health Related Professions (1970-1979)

SWAIN, RALPH W., Ph.D. (Cornell University)
Associate Professor of Industrial and Systems Engineering and Associate Director, Health Systems Research Center (1976-1976).

SWANSON, BERT E., Ph.D. (University of Oregon)
Professor of Political Science (1971-1971).

SWANSON, RICHARD M., Ph.D (University of Colorado)
Associate Professor of Psychology (1972-1979).

SYPERT, GEORGE W., M D. (University of Washington)
Professor of Neurological Surgery and Neuroscience and Chief of Neurological Surgery VAH, (1974-1980).

SYPERT, NANCY, MS (University of Washington)
Clinical Director of Nursing, Surgical Division, Shands Teaching Hospital and Clinics, Inc. (1980-1980)

SYRACUSE, RICHARD G., M.S. (Simmons College)
Assistant Librarian, Catalog Department (1980-1980).

SYVERTSEN, JAMES P., Ph.D. (New Mexico State University)
Assistant Professor, Plant Pathology, AREC-Lake Alfred (1977-1978).

TABELING, BARBARA B., M.D. (University of Kentucky)
Assistant Professor of Anesthesiology (1979-1980).

TABELING, HENRY J., D.M.D. (University of Kentucky)
Assistant Professor of Oral and Maxillofacial Surgery (1981-1981).

TALBERT, JAMES L., M.D. (Vanderbilt University)
Professor of Surgery and Pediatrics and Chief of Pediatric Surgery (1967-1970).

TALBOT, MICHAEL THOMAS, M.E. (University of Florida)
Assistant Professor, Agricultural Engineering (1980-1980).

TALBOT, RANDY W., B.A. (University of Florida)
Associate Director of Alumni Affairs (1978-1980).

TANNER, GEORGE W., Ph.D. (Texas A&M University)
Assistant Professor, Forest Resources and Conservation (1978-1978).

TAPLEY, T. CRAIG, D.B.A. (Indiana University)
Assistant Professor of Finance (1981-1981).

TAPPAN, WILLIAM BURGESS, M.S.A. (University of Florida)
Professor, Entomology and Nematology, AREC-Quincy (1955-1974).

TARJAN, ARMEN CHARLES, Ph.D. (University of Maryland)
Professor, Entomology and Nematology (1953-1969).

TATE, ROBERT L. III, Ph.D. (University of Wisconsin)
Associate Professor, Microbiology and Cell Science, AREC-Belle Glade (1975-1980).

TATE, SUSAN DOUGLAS, M.S., M.Arch. (University of Tennessee)
Assistant Professor of Interior Design (1972-1976).

TAYLOR, BARBARA E., Ph.D. (University of Wisconsin)
Assistant Professor, Extension Home Economics (1977-1977).

TAYLOR, CAROLYN D., M.A. (London University)
Assistant Professor, College of Nursing (1959-1974).

TAYLOR, CHARLES E., Ph.D. (University of Illinois)
Professor of Engineering Sciences (1981-1981).

TAYLOR, CLIFTON L., Ph.D. (University of Wisconsin)
Assistant Professor, Florida Cooperative Extension Service (1975-1975).

TAYLOR, FRANK H.
Associate Professor of English (1955-1968).

TAYLOR, GRACE W., J.D. (University of Florida)
Director and Professor of Legal Information Center (1956-1973).

TAYLOR, KARL EDWARD, Ph D. (Yale University)
Assistant Professor of Physics and Atmospheric Sciences (1979-1979).

TAYLOR, TIMOTHY G., Ph.D (University of Florida)
Assistant Professor, Food and Resource Economics (1980-1980).

TAYLOR, W. F., LL.M. (University of Wisconsin)
Assistant Professor of Law (1979-1979).

TAYLOR, WILLIAM JAPE, M.D. (Harvard University)
Distinguished Professor of Medicine (1958-1974).

TEAGUE, PERRY O , Ph.D. (University of Oklahoma)
Associate Professor of Pathology (1968-1974).

TEARE, IWAN DALE, Ph.D. (Purdue University)
Center Director and Professor, Agronomy, AREC-Quincy (1979-1979).

TEAS, DONALD CLAUDE, Ph.D. (University of Texas)
Professor of Psychology, Speech and Electrical Engineering (1967-1971).

TEEM, DAVID H., Ph. D. (Auburn University)
Associate Professor, Agronomy (1976-1979).

TEFERTILLER, KENNETH RAY, Ph.D. (University of Illinois)
Vice President for Agricultural Affairs and Professor, Food and Resource Economics (1965-1973).

TEMPLETON, ELLEN, M.S. (University of Tennessee)
Assistant Professor of Extension Home Economics (1980-1980).

TENNANT, LEO KEITH, Ed.S. (University of Florida)
Associate Professor of Professional Physical Education (1967-1980).

TEPLY, MARK LAWRENCE, Ph.D. (University of Nebraska)
Professor of Mathematics (1968-1981).

TERHUNE, FRANCES W., Ph D. (University of Florida)
Assistant Research Scholar and Assistant Director for Administration, Bureau of Economic and Business Research (1976-1980).

TERHUNE, JAMES L., Ph.D (Indiana University)
Professor of Journalism and Communications and Chairman, Department of Advertising and Public Relations (1967-1981).

TERRY, CLINTON, Ph.D. (University of California at Santa Barbara)
Assistant Professor of Sociology and Criminal Justice (1977-1977).

TESAR, DELBERT, Ph.D. (Georgia Institute of Technology)
Professor of Mechanical Engineering; Professor of Engineering Sciences (1964-1969).

THAR, TIMOTHY L., M.D. (Johns Hopkins University)
Associate Professor of Radiation Therapy (1976-1981).

THARP, WAYNE, B.S. (University of Florida)
Internal Auditor, Shands Teaching Hospital and Clinics, Inc. (1980-1980).

THATCHER, WILLIAM WATTERS, Ph.D. (Michigan State University)
Professor, Dairy Science (1969-1978).

THEIL, HENRY, Ph.D. (University of Amsterdam)
Professor of Econometrics and Decision Studies (1981-1981).

THOMAS, CHARLES W., Ph.D. (University of Kentucky)
Professor of Sociology, Director of Criminal Justice (1980-1980).

THOMAS, BILLY SEAY, Ph.D. (Vanderbilt University)
Associate Professor of Physics (1960-1976).

THOMAS, JAMES M., M.D. (University of Florida)
Associate Professor and JHEP Chairman (1979-1981).

THOMAS, ROBERT E., M.A (University of Florida)
Associate Professor, IFAS Editorial (1974-1980).

THOMAS, WILLAM CLARK, JR., M.D. (Cornell University)
Professor of Medicine and Associate Director For Research, VAH (1957-1973).

THOMPSON, CATHERINE R., Ph.D. (University of Florida)
Assistant Research Scientist, Entomology and Nematology, AREC-Ft. Lauderdale (1981-1981).

THOMPSON, FLOYD J., Ph.D. (Indiana University)
Assistant Professor of Neuroscience (1974-1974).

THOMPSON, FRED GILBERT, Ph.D. (University of Miami)
Associate Curator of Malacology, Florida State Museum, Joint Associate Professor of Zoology and Latin American Studies (1966-1973).

THOMPSON, IRENE, M.A. (New York University)
Associate Professor of English (1967-1975).

THOMPSON, JERRY, Ed.S. (University of Florida)
University School Instructor, P.K. Yonge Laboratory School (1981-1981).

THOMPSON, NEAL PHILIP, Ph.D. (Princeton University)
Assistant Dean for Research and Professor, Food Science and Human Nutrition (1965-1980).

THOMPSON, ROBERT J., M.D. (Wayne State University)
Associate Professor and JHEP Chairman (1970-1970).

THOMPSON, ROGER M., Ph.D. (University of Texas)
Associate Professor of English and Linguistics (1971-1976).

THOMSON, ROBERT S., Ph.D. (Cambridge University)
Associate Professor of English (1974-1979).

THORN, CHARLES BEHAN, Ph.D. (University of California at Berkeley)
Professor of Physics (1980-1980)

THORNE, KARL SEYMOUR, M.Arch. (University of Pennsylvania)
Associate Professor of Architecture (1978-1978).

THORNTON, J. RONALD, M.A (Wake Forest University)
Director, NASA-STAC (1979-1979).

THURSBY, GENE ROBERT, Ph.D. (Duke University)
Associate Professor of Religion (1970-1976).

TICER, JAMES W., D.V.M. (University of California at Davis) Ph.D. (Colorado State University)
Professor, Department of Special Clinical Sciences, and Assistant Dean for Instruction, College of Veterinary Medicine (1976-1980).

TILLMAN, CHESTER EARL, Ed.D. (University of Florida)
Associate Professor of English and Education (1967-1973).

TILLMAN, WILEY JAMES, JR., M.Arch. (University of Illinois)
*Associate Professor of Architecture (1952-1968).**

TILSON, WILLIAM L., M.Arch. (Virginia Polytechnic Institute)
Associate Professor, Plant Pathology, AREC-Lake Alfred (1978-1978).

TIMMER, LAVERN W., Ph.D. (University of California)
Associate Professor, Plant Pathology, AREC-Lake Alfred (1978-1978).

TIMMERMAN, MELVIN EUGENE, Ph.D. (University of South Carolina)
Assistant Professor of Education (1960-1960).

TISHER, C. CRAIG, M.D. (Washington University)
Professor of Medicine and Chief of Nephrology (1980-1980).

TITTLE, MARY B., M.S.N. (University of Florida)
Instructor, College of Nursing (1981-1981).

TJIA, BENNY D., Ph.D. (Ohio State University)
Associate Professor, Ornamental Horticulture (1975-1980).

TOBEY, FRANK L., Ph.D. (University of Michigan)
Associate in Physics (1974-1980).

TODA, YASUSHI, Ph.D. (Harvard University)
Associate Professor of Economics (1974-1980).

TODD, EUGENE ALLEN, Ed.D. (University of Houston)
Professor of Education and Chairman, Department Subject Specialization Teacher Education (1965-1971).

TOLBERT, ELIAS LAKE, Ed.D. (Columbia University)
Professor of Education (1967-1979).

TOLLER, GARY N., Ph.D. (SUNY, Stony Brook)
Associate in Astronomy (1981-1981).

TOSI, HENRY L., (Ohio State University)
Professor and Chairman of Management (1978-1978).

TUSKES, PHILIP P., M.D (University of Maryland)
Professor of Medicine and Chief of Gastroenterology (1973-1978).

TOU, JULIUS T., Ph.D. (Yale University)
Director, Center for Information Research, and Graduate Research Professor of Computer and Information Sciences and Electrical Engineering, College of Engineering (1967-1967).

TOWE, MONTE, B.A. (North Carolina State University)
Assistant Basketball Coach (1980-1980).

TOWNSEND, FRANK CHARLES, Ph.D. (Oklahoma State University)
Professor of Civil Engineering (1979-1979).

TOY, G. ARLAN, M.B.C. (University of Florida) M.A.T. (Rollins College)
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TREADWELL, JANE B., M.S.L.S. (Florida State University)
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TREECE, JACK M., Ph.D (Ohio State University)
Assistant Professor of Medical Technology (1981-1981).

TRELOAR, DONNA M.N. (University of Florida)
Assistant Professor, College of Nursing (1978-1978).

TRELOAR, RICHARD W., M.B.A (University of Florida)
Director, Medical Record Services, Shands Teaching Hospital and Clinics, Inc. (1978-1978).

TRICKEY, SAMUEL BALDWIN, Ph.D. (Texas A&M University)
Professor of Physics and Chemistry (1968-1979).

TRIGGIANI, ROBERTO, Ph.D. (University of Minnesota)
Associate Professor of Mathematics (1980-1981).

TRIMMER, DOROTHY A., M.S.N. (Hunter College)
Instructor, College of Nursing (1981-1981)

TRIMMER, J. MORRIS, M.B.A. (University of Florida)
*Associate Professor of Building Construction (1958-1975).**

TROBE, JONATHAN D., M.D. (Harvard Medical School)
Associate Professor and Chief of Opthalmology, VAH (1974-1981).

TROUPIN, EDWARD CHARLES, M.M (University of Michigan)
Professor of Music (1960-1968).

TRUEBLOOD, FELICITY, M.A (University of Florida)
Associate Research Scholar of Latin American Studies and History (1964-1976).

TSAI, JAMES HSI-CHO, Ph.D. (Michigan State University)
Associate Professor, Entomology and Nematology, AREC-Ft. Lauderdale (1973-1978).

TUCKER, CAROLYN M., Ph.D. (SUNY at Stony Brook)
Assistant Professor of Psychology (1976-1977).

TUCKER, DAVID P., Ph.D. (University of California at Riverside)
Professor, Fruit Crops, AREC-Lake Alfred (1966-1978).

TUCKER, JALIE A., Ph D. (Vanderbilt University)
Assistant Professor of Clinical Psychology in Psychiatry (1980-1980).

TUFEKCI, SULEYMAN, Ph D. (Georgia Institute of Technology)
Assistant Professor of Industrial and Systems Engineering (1981-1981).

TURNER, EDWARD C., Ph.D. (Michigan State University)
Assistant Professor of Education (1972-1973).

TURNER, ELDON R., Ph.D. (University of Kansas)
Assistant Professor of History (1969-1969).

TURNER, I DOUGLAS, B.S. (Stetson University)
Director of Student Financial Affairs (1965-1967).

TURNER, THOMAS, M.A. (Murray State University)
Assistant Track Coach (1979-1979).

TUTEN, RICHARD, B.S. (Clemson University)
Strength Coach (1981-1981).

TWITCHELL, JAMES B., Ph.D. (University of North Carolina)
Associate Professor of English (1973-1976).

TYLER, MAX E., Ph.D. (Ohio State University)
Professor, Microbiology and Cell Science (1953-1953).

TYLER, WILLIAM GURDON, III, Ph.D. (Fletcher School of Law and Diplomacy, Tufts University)
*Assistant Professor of Economics (1969-1969).**

TYLKOWSKI, CHESTER M., M.D. (University of Illinois)
Assistant Professor of Orthopaedics (1979-1979).

TYNER, MACK, Ph.D. (University of Cincinnati)
Professor of Chemical Engineering (1944-1956).

UDELL, BUDD ALLEN, D.M.A. (University of Cincinnati)
Associate Professor of Music and Chairman of Department of Music (1977-1977).

UELSMANN, JERRY NORMAN, M.S., M.F.A. (Indiana University)
*Graduate Research Professor of Art (1960-1974).**

ULAM, STANISLAW MARCIN, Ph.D. (Polytechnic Institute of Lwow, Poland)
Graduate Research Professor of Mathematics (1973-1973).

ULMER, GREGORY, Ph.D. (Brown University)
Associate Professor of English (1972-1977).

UMAN, MARTIN ALLAN, Ph D. (Princeton University)
Professor of Electrical Engineering and Physics (1972-1972).

UNDERBERGER, HOWARD LLOYD, M.S. (Polytechnic Institute of New York)
Associate Professor of Building Construction (1971-1976).

UPSHAW, WINTON LAMAR, B.S.,B.A. (University of Florida)
Associate in College of Health Related Professions (1962-1976).

URWONGSE, TAWSAK, Ph.D. (University of Missouri at Rolla)
Computer Research Specialist, Division of Planning and Analysis (1979-1980).

VALA, MARTIN T., Ph.D. (University of Chicago)
Professor of Chemistry (1967-1978).

VALENSTEIN, EDWARD, M.D. (Albert Einstein College of Medicine)
Associate Professor and Chief of Neuromuscular Services (1974-1978).

VALISALO, PAAVO E., Ph D. (Technical University of Finland)
Associate Professor of Industrial and Systems Engineering (1961-1970).

VAN ALYSTYNE, W. SCOTT, S.J.D (University of Wisconsin)
Professor of Law (1972-1973).

VAN BLOKLAND, PETER JON, Ph.D. (University of Illinois)
Associate Professor, Food and Resource Economics (1976-1981).

VAN DER ZIEL, ALDERT, Ph.D. (University of Groningen, The Netherlands)
Graduate Research Professor (1968-1968).

VANCE, TIMOTHY J. Ph.D. (University of Chicago)
Assistant Professor of Japanese and Linguistics (1981-1981).

VANDERWERF, CALVIN A , Ph.D. (Ohio State University)
Professor of Chemistry (1971-1971).

VANDIVER, VERNON V., Ph.D. (North Carolina State University)
Associate Professor, Agronomy, AREC-Ft. Lauderdale (1975-1980).

VAN HARTESVELDT, CAROL J., Ph.D. (University of Rochester)
Associate Professor of Psychology (1970-1978).

VAN HORN, HAROLD H., Ph.D. (Iowa State University)
Professor, Dairy Science (1970-1970).

VAN MIEROP, L.H.S., M.D. (University of Leiden, The Netherlands)
Graduate Research Professor and Chief of Pediatric Research (1966-1977).

VAN RINSVELT, HENRI ALBERT, Ph.D. (University of Utrecht)
Professor of Physics (1967-1978).

VAN VLIET, CAREL MARINUS, Ph.D. (Free University of Amsterdam)
Professor of Electrical Engineering (1974-1974).

VANDIVER, JOSEPH S., Ph.D. (Louisiana State University)
Professor of Sociology (1962-1962).

VANSICKLE, JOHN J., Ph.D (Iowa State University)
Assistant Professor, Food and Resource Economics (1980-1980).

VARMA, ARON KUMAR, Ph.D. (University of Alberta)
Professor of Mathematics (1967-1975)

VARNES, JILL WILSON, Ed.D. (University of Southern Mississippi)
Assistant Professor of Health Education (1978-1978).

VARNES, PAUL RAY, Ed.D. (University of Florida)
Professor of Recreation and Chairperson of the Department of Recreation (1968-1975).

VASIL, INDRA KUMAR, Ph.D. (University of Delhi, India))
Graduate Research Professor, Botany (1967-1979)

VASIL, VIMLA, Ph.D. (University of Delhi, India)
Associate Research Scientist, Botany (1981-1981)

VEIGL, VICTORIA L., Ph.D. (Indiana University)
Assistant Professor of Physiology in Occupational Therapy (1980-1980).

VENNER, MARK E., M.Ed. (South Dakota State University)
Captain, U.S. Air Force, Assistant Professor of Aerospace Studies (1981-1981).

VERA, HERNAN, Ph.D. (University of Kansas)
Associate Professor of Sociology (1974-1980).

VERA, MARIA INES, M.S.W. (University of Kansas)
Instructor of Social Work in Psychiatry (1974-1974).

VERINK, ELLIS DANIEL, JR , Ph.D. (Ohio State University)
Professor of Materials Science and Engineering and Chairperson of the Department (1965-1973)

VERNON, JACK R., Ph.D. (Northwestern University)
Professor of Economics (1967-1974).

VERTUCCI, FRANK J., D.M.D (New Jersey Dental School)
Associate Professor and Chairman of Endodontics (1975-1980).

VETTER, MICHAEL K., M Ed (Bowling Green State University)
Assistant Director of Housing for Residence Life, Housing (1979-1979).

VICKERS, FRANK D., Ph.D. (University of Florida)
Associate Professor of Computer and Information Sciences, College of Engineering (1959-1967).

VICTORICA, BENJAMIN E., M.D. (University of Cuyo, Argentina)
Professor of Pediatrics (1967-1980).

VIERCK, CHARLES J. JR., Ph.D. (University of Florida)
Professor of Neuroscience and Psychology (1965-1977).

VILALLONGA, FEDERICO, Ph D (University of Buenos Aires)
Professor of Pharmacy (1969-1969).

VINCE, ANDREW, Ph.D (University of Michigan)
Assistant Professor of Mathematics (1981-1981).

VISSCHER, E. MARIE, M.S. (Adelphi University)
Assistant Professor, College of Nursing (1978-1978).

VLASAK, JIRINA, M.S. (University of Chemical Technology, Czechoslovakia)
Visiting Assistant in Pharmacy (1981-1981)..

VNENCHAK, EDWARD J., M.B.A. (Louisiana Tech)
Captain, U.S. Air Force, Assistant Professor of Aerospace Studies (1981-1981).

VOGEL, STEPHEN B., M.D., (University of Florida)
Associate Professor of Surgery (1979-1979).

VOGH, BETTY P., Ph.D. (University of Florida)
Associate Research Scientist (1965-1978).

VOICHYSONK, BERNARD FRANCIS, M.F.A. (Yale University)
Professor of Architecture (1959-1976).

VOLIN, RAYMOND B., Ph.D. (Montana State College)
Associate Professor, Plant Pathology, AREC-Homestead (1971-1977).

VOLK, BOB GARTH, Ph.D. (Michigan State University)
Associate Professor, Soil Science (1970-1975).

VON MERING, OTTO O., Ph.D. (Harvard University)
Professor of Anthropology and OB-Gyn (1971-1971).

VOYLES, LOUIS VERNON, B.A. (University of Florida)
University Registrar (1948-1974).

VUCHINICH, RUDOLPH, Ph D. (Vanderbilt University)
Assistant Professor of Clinical Psychology (1979-1980).

WACKERLY, DENNIS D., Ph.D (Florida State University)
Associate Professor of Statistics (1973-1977).

WADDILL, V. H., Ph.D. (Clemson University))
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WAGLEY, CHARLES W., Ph.D. (Columbia University))
Graduate Research Professor of Anthropology (1971-1971).

WAGNER, GRACE C., B.SS. (Cornell College)
Continuing Education Coordinator (1981-1981).

WAGNER, JAMES T., Ph.D. (University of Florida)
Director of Pastoral Care, Shands Teaching Hospital and Clinics, Inc. (1970-1973).

WAGNER, PATRICIA ANN, Ph.D. (University of Wisconsin)
Assistant Professor, Extension Home Economics (1975-1975).

WAGNER, WILLIAM GRANT, M.Arch. (Texas A&M University)
Professor of Architecture (1964-1979).

WAHL, FLOYD MICHAEL, Ph D. (University of Illinois)
Professor of Geology (1969-1981).

WAITES, ROBERT ELLSWORTH, Ph.D. (Ohio State University)
Associate Professor, Entomology and Nematology (1951-1968).

WATTS, K., J.D. (Harvard Law School)
Assistant Professor of Law (1979-1979).

WAKELAND, EDWARD K., Ph.D. (University of Hawaii)
Assistant Professor of Pathology (1980-1980)

WAKEMAN, DONALD LEE, M.S.A (University of Florida)
Professor, Animal Science (1957-1975).

WALDBILLIG, ROBERT J., Ph.D. (University of Minnesota)
Assistant Professor of Psychology (1976-1976).

WALDO, DOUGLAS G., Ph.D. (University of North Carolina)
Assistant Professor of Economics (1981-1981).

WALDO, WHITSON, J.D (University of Alabama)
Associate Professor of Building Construction (1979-1979).

WALDRON, CLAIRE M., M.A. (University of Missouri-Columbia)
Associate in Speech (1977-1980)

WALKER, CLAY B., Ph.D. (Virginia Polytechnic Institute and State University)
Assistant Professor of Basic Dental Sciences (1981-1981).

WALKER, DON W., Ph.D. (Texas Christian University)
Professor of Neuroscience and Graduate Coordinator, VAH (1970-1981).

WALKER, DORIS KATHERINE, Ph.D. (University of California)
Assistant Professor, Extension Home Economics (1977-1977)

WALKER, MARYANN A., M.S.N. (Boston University)
Assistant Professor, College of Nursing (1981-1981).

WALKER, R. DIXON, III, M.D. (University of Miami)
Professor of Surgery and Pediatrics (1970-1976).

WALKER, THOMAS J., Ph.D. (Ohio State University)
Professor, Entomology and Nematology (1957-1968).

WALLACE, CHARLES E., Ph.D. (University of Florida)
Associate Engineer of Civil Engineering (1979-1979).

WALLACE, HAROLD DEAN, Ph.D. (Cornell University)
Professor and Chairman, Animal Science (1950-1976).

WALLBRUNN, HENRY MAURICE, Ph.D. (University of Chicago)
Associate Professor of Zoology (1951-1963).

WALSH, CHARLOTTE D., M.Ed. (Stetson University)
University School Instructor, P. K. Yonge Laboratory School (1978-1978).

WALSH, EDWARD KYRAN, Ph.D. (Brown University)
Professor of Engineering Sciences (1970-1975).

WALSH, ROBERT E., M.Ed. (Northeastern University)
Lieutenant Colonel, U. S. Army, Professor of Military Science (1980-1980).

WALSH, THOMAS, Ph.D. (University of Chicago)
Associate Professor of Mathematics (1971-1975).

WALTERS, YANCEY BAILEY, M.S. (Auburn University)
Professor, Extension Home Economics, (1965-1965).

WALTON, MARGARET N., M.S. (Florida State University)
Assistant Professor (FAMU) Extension Home Economics (1973-1973).

WANG, RU. T., Ph.D. (Rensselaer Polytechnic Institute)
Associate Research Scientist of Astronomy (1980-1980).

WANG, SHIH-CHI, Ph.D. (Michigan State University)
Assistant Research Scientist, Forest Resources and Conservation (1979-1979).

WANG, YU-HWA, Ph.D. (University of Southern California)
Associate Professor of Coastal and Oceanographic Engineering (1973-1978).

WARD, DANIEL BERTRAM, Ph.D. (Cornell University)
Professor of Botany (1958-1975).

WARD, JOHN LAWRENCE, M.A., M.F.A. (University of New Mexico)
*Associate Professor of Art (1966-1975).**

WARD, PHILLIP A., M.F.A. (Tulane University)
Professor of Art (1959-1977).

WARD, RONALD W., Ph.D. (Iowa State University)
Professor, Food and Resource Economics (1970-1979)

WARDOWSKI, WILFRED F., Ph.D. (Michigan State University)
Professor, Fruit Crops, AREC-Lake Alfred (1969-1979).

WARHEIT, GEORGE J., Ph.D. (Ohio State University)
Professor of Sociology in Psychiatry (1969-1974).

WARNICK, ALVIN CROPPER, Ph.D. (University of Wisconsin)
Professor, Animal Science (1953-1962).

WARNOCK, HAROLD P., Ed.D (Cornell University)
Associate Professor (District Agent), Florida Cooperative Extension Service (1981-1981).

WARREN, GLENDA LOU, M.S. (Oklahoma State University)
Associate Professor, Extension Home Economics (1971-1977).

WASS, HANNELORE LINA, Ph.D. (University of Michigan)
Professor of Education (1969-1975).

WATERS, WILLIE ESTEL, Ph.D. (University of Florida)
Center Director and Professor, Ornamental Horticulture, AREC-Bradenton (1960-1968).

WATERS, WRIGHT, M.Ed. (Livingston University)
Assistant Athletic Director for Student Life (1979-1980).

WATSON, ALASTAIR G., B.V.SD. (Massey University)
Visiting Assistant Professor, Department of Metabolism, College of Veterinary Medicine (1979-1981).

WATSON, JAMES KENNETH, Ph.D. (Rice University)
Professor of Electrical Engineering (1966-1979).

WATSON, JOHN D., B.S. (Auburn University)
Assistant in Administration, College of Liberal Arts and Sciences (1980-1980).

WATSON, ROBERT T., M.D., (University of Florida)
Professor of Neurology (1979-1979).

WATTENBARGER, JAMES L., Ed.D. (University of Florida)
Professor of Education and Chairperson, Educational Administration Department (1947-1968).

WATTLEWORTH, JOSEPH A., Ph.D. (Northwestern University)
Professor of Civil Engineering (1969-1969).

WATTS, EARLE HUNT, B.S. (University of Missouri)
Assistant Professor of Mechanical Engineering (1957-1957).

WEAR, RICHARD ARLEN, Ph.D. (Florida State University)
Associate Professor of English (1970-1976).

WEAVER, ANNA LOUISE, B.S. in L.S.
*Librarian in charge of Architecture and Fine Arts Library (1959-1973).**

WEAVER, ERNESTINE, B.S. (Michigan State University)
Instructor of Physical Education (1979-1980).

WEAVER, JAMES W., M.D. (Tulane University)
Assistant Professor of Radiology (1980-1980).

WEAVER, WILLIAM BANCROFT, M.S. (Florida State University)
Associate Librarian, IFAS Library (1964-1969).

WEBB, ALISTAIR I., B.V.Sc. (University of Queensland) Ph.D. (University of Bristol),
Assistant Professor, Department of Medical Sciences, College of Veterinary Medicine (1978-1980).

WEBB, CHARLES H., M.D. (Ohio State University)
Assistant Professor of Medicine (1979-1979).

WEBB, DANIEL WARREN, Ph.D. (Kansas State University)
Associate Professor, Dairy Science (1971-1976).

WEBB, JEANINNE N., Ed.D. (University of Florida)
Professor and Director, Office of Instructional Resources (1972-1981).

WEBB, LINDA M., Ph.D. (University of Oregon)
Assistant Professor of Speech (1980-1980).

WEBB, RODMAN, B., Ed.D. (Rutgers University)
Associate Professor of Education (1972-1977)

WEBB, ROGER S., Ph.D. (Virginia Polytechnic and State University)
Assistant Professor, Forest Resources and Conservation (1980-1980).

WEBB, SAWNEY DAVID, Ph.D (University of California)
Curator of Vertebrate Paleontology, Florida State Museum, Zoology and Geology (1964-1975).

WEBB, W.B., Ph.D. (State University of Iowa)
Graduate Research Professor of Psychology (1958-1970)

WEBBER, RAYMOND T., D D.S. (University of Missouri at Kansas City)
Assistant Professor of Endodontics (1977-1977).

WEBER, F. THOMAS, M.D. (University of Cincinnati)
Associate Professor of Pediatrics and Assistant Director of Pediatric Clinic (1975-1980).

WEBER, W. ROBERT, M.D. (University of Cincinnati)
Assistant Professor of Pathology (1977-1977)

WEBSTER, KEITH, B.Ed. (University of Kentucky)
Assistant Athletic Trainer (1980-1980).

WEHLBURG, ALBERT F.C., Ed D. (University of Florida)
Associate Professor of Theatre (1966-1978).

WEI, CHENG-I, Ph.D. (University of California, Davis)
Assistant Professor, Food Science and Human Nutrition (1981-1981)

WEINBERG, JERRY L., Ph.D. (University of Colorado)
Research Scientist of Astronomy and Director of Space Astronomy Laboratory (1980-1980).

WEINER, ROY S., M D. (SUNY-Downstate)
Professor of Medicine and Chief of Oncology (1976-1981).

WEINGARTNER, DAVID PETER, Ph.D. (Michigan State University)
Associate Professor, Plant Pathology, AREC-Hastings (1969-1975).

WEINSHELBAUM, ARLENE M., M D. (University of Chicago)
Assistant Professor of Radiology VAMC (1973-1973).

WEISMANTEL, WILLIAM LOUIS, LL B., Ph.D. (Harvard)
Professor of Urban and Regional Planning, (1975-1975)

WEISS, DAVID, LL.B. (Harvard University)
University Law Librarian (1969-1974).

WEISS, MARILYN, M.A. (University of Northern Colorado)
Assistant Athletic Director for Women's Sports (1981-1981).

WELCH, PAULA DEE, Ed.D. (University of North Carolina)
Associate Professor of Professional Physical Education (1974-1979).

WELLBORN, CHARLES G., JR., M.A. (University of Florida)
Professor of Journalism and Communications (1966-1976).

WELLS, EDWARD L., B.F.A. (University of Florida)
Assistant in Broadcasting in Journalism and Communications (1969-1973).

WELSCH, BOYD B., D.M.D. (University of Florida)
Assistant Professor of Occlusion and Fixed Prosthodontics (1977-1977).

WELSCH, WALTER ROLAND, M.Ed. (University of Florida)
Professor of Physical Education and Assistant Track Coach (1954-1979).

WELTNER, WILLIAM, JR., Ph.D. (University of California)
Professor of Chemistry (1966-1966).

WERNER, LINDA L., D.V.M. (Ohio State)
Assistant Professor, Department of Medical Sciences, College of Veterinary Medicine (1977-1977).

WEST, CHRISTOPHER M., Ph.D. (California Institute of Technology)
Assistant Professor of Anatomy (1979-1979).

WEST, GWENETH LUCRETIA, M.F.A. (University of Texas)
Associate Professor of Theatre (1976-1981).

WEST, ROGER L., Ph.D. (Texas A&M University)
Associate Professor, Animal Science (1973-1978).

WEST, SHERLIE HILL, Ph.D. (University of Illinois)
Professor of Agronomy (1972-1979).

WESTERMANN-CLARK, GERALD BRUCE, Ph.D. (Carnegie-Mellon)
Assistant Professor of Chemical Engineering (1980-1980).

WESTFALL, MINTER JACKSON, JR., Ph.D. (Cornell University)
Professor of Zoology and Entomology (1947-1969).

WESTIN, ROBERT H., Ph.D. (Pennsylvania State University)
Associate Professor of Art and Chairperson of the Department of Art (1978-1978).

WESTON, EDWARD G., Ph.D. (Florida State University)
*Associate Professor of Journalism and Communications (1970-1977).**

WETHINGTON, JOHN ABNER, JR., Ph.D. (Northwestern University)
Professor of Nuclear Engineering Sciences (1953-1960).

WETTERQVIST, ORJAN FREDERICK, M.A. (Royal Inst. of Tech.)
Associate Professor of Urban and Regional Planning (1969-1974).

WEYRAUCH, WALTER OTTO, J.S.D. (Yale University)
Professor of Law (1957-1960).

WHAN, ALEXANDER R., M.B.A. (George Washington University)
Vice President, Operations, Shands Teaching Hospital and Clinics, Inc. (1977-1980).

WHEATON, THOMAS ADAIR, Ph D. (University of California)
Professor, Fruit Crops, AREC-Lake Alfred (1963-1979).

WHEELER, SIDNEY E., M.S. (Naval Postgraduate School)
Commander, U.S Navy, Associate Professor of Naval Science (1980-1980).

WHEELER, WILLIS BOLY, Ph.D. (Pennsylvania State University)
Professor, Food Science and Human Nutrition (1966-1978).

WHIDDON, NANCY SUE, Ed.D. (Florida Atlantic University)
Associate Professor of Professional Physical Education (1972-1979).

WHITCOMB, WILLARD HALL, Ph.D. (Cornell University)
Professor, Entomology and Nematology (1967-1967).

WHITE, ARTHUR O., Ed.D. (State University of New York, Buffalo)
Associate Professor of Education (1970-1975).

WHITE, CALVIN E., Ph.D. (University of Arkansas)
Assistant Professor, Animal Science, AREC-Live Oak (1978-1978).

WHITE, CLEMENTINE BERTHA, M.M (Oberlin College)
Associate Professor of Music (1966-1975).

WHITE, JOHN DAVID, Ph.D. (Eastman School of Music)
Professor of Music (1980-1980).

WHITE, FRANKLIN HENRY, Ph.D (University of Illinois)
Professor, Preventive Medicine, College of Veterinary Medicine, IFAS (1955-1967).

WHITE, JAMES MARION, Ph.D (Ohio State University)
Associate Professor, Vegetable Crops, AREC-Sanford (1974-1980).

WHITE, KEITH D., Ph.D. (Brown University)
Associate Professor of Psychology (1976-1981).

WHITE, MAJORIE A., Ph.D. (Case Western Reserve University)
Associate Professor, College of Nursing (1980-1980).

WHITE, NEIL L., Ph D (Harvard)
Associate Professor of Mathematics (1973-1980).

WHITE, TONY ROBERT, M.A.E. (Oklahoma State University)
Assistant Professor of Architecture (1969-1973).

WHITEHEAD, WILLIAM J.,
Assistant in Engineering in Civil Engineering (1968-1975).

WHITESIDE, JACK OLIVER, Ph.D. (University of London)
Professor, Plant Pathology, AREC-Lake Alfred (1967-1973)

WHITLEY, ESTOYA WILLIA, M.A. (Appalachia State University)
University School Assistant Professor, P.K. Yonge Laboratory School (1958-1978).

WHITNEY, ELLSWORTH DOW, Ph.D. (New York University)
Professor of Materials Science and Engineering (1970-1975).

WHITNEY, JODIE DOYLE, Ph.D. (University of Oklahoma)
Professor, Agricultural Engineering, AREC-Lake Alfred (1965-1979).

WHITTINGTON, RICHARD M., M.D. (Jefferson Medical College)
Assistant Dean for VA Medical Relations, Chief of Staff, VAMC
Professor of Medicine (1976-1976).

WHITTY, ELMO BENJAMIN, Ph.D. (North Carolina State University)
Professor, Agronomy (1966-1979).

WICKENDEN, THOMAS C., M.D. (Columbia College of Physicians and Surgeons)
Assistant Professor of Community Health and Family Medicine (1980-1980).

WICKHAM, R.A., B.S. (University of Florida)
Systems Coordinator (1980-1981).

WICKWIRE, NANN A., D.D.S. (University of Maryland)
Professor of Orthodontics (1974-1974).

WIERZBOWSKI, LEO M., JR., M.A. (University of Florida)
Assistant in Computer Science, Bureau of Economic and Business Research (1980-1980).

WIGGINS, J. ARDENE, B.S. (University of Florida)
Vice President of Development and Alumni Affairs (1971-1979).

WILCOX, CHARLES JULIAN, Ph.D. (Rutgers University)
Professor, Dairy Science (1959-1971).

WILCOX, MERRILL, Ph.D (North Carolina State University)
Professor, Agronomy (1960-1973).

WILDER, BUNA J., M.D. (Duke University)
Professor of Neurology and Neuroscience, VAH (1962-1973).

WILFRET, GARY L., Ph.D. (University of Hawaii)
Professor, Ornamental Horticulture, AREC-Bradenton (1971-1980).

WILKIE, WILLIAM L., Ph.D. (Stanford University)
Professor of Marketing (1974-1977).

WILKENSON, EDWARD J., M.D. (Marquette University)
Professor of Pathology (1980-1980).

WILKINSON, ROBERT CLEVELAND, Ph.D. (University of Wisconsin)
Professor, Entomology and Nematology (1960-1971).

WILKOWSKE, H.H., Ph.D. (Iowa State University)
Director, IFAS Internal Energy Management, and Professor, Dairy Science (1950-1980).

WILLARD, DEL, M.S. (Western Reserve University)
Instructor in Mathematics (1960-1960).

WILLETT, CHARLES, M.S. (Simmons College)
Librarian and Chairman of Acquisitions Department (1978-1978).

WILLIAMS, AUBREY LAKE, Ph.D. (Yale University)
Graduate Research Professor of English (1958-1961).

WILLIAMS, CHARLES A., M.D. (University of Florida)
Assistant Professor and Medical Director of Sunland Training Center (1978-1980).

WILLIAMS, CHARLES S. Ed.D. (Western Kentucky University)
Associate Professor of Physical Education (1972-1980).

WILLIAMS, CLYDE M., Ph.D. (Oxford University) M.D. (Baylor University)
Professor and Chairman, Radiology (1960-1965).

WILLIAMS DAVID D., Ph.D. (University of Florida)
Associate Professor, College of Nursing (1970-1981).

WILLIAMS, DONALD EDWARD, Ph.D. (Northwestern University)
Professor of Speech (1959-1971).

WILLIAMS, EMMETT LOUIS, Ph.D. (George Peabody College for Teachers)
Professor of Education and Associate Dean, College of Education (1964-1970).

WILLIAMS, HIRAM D., M.Ed. (Pennsylvania State University)
Distinguished Service Professor of Art (1960-1980).

WILLIAMS, KATHRYN R., Ph.D. (Florida State University)
Associate in Chemistry (1979-1979).

WILLIAMS, MYRA DEE, M.N. (University of Florida)
Assistant Professor, College of Nursing (1980-1981).

WILLIAMS, NANCY LYNNE, M.S.L.S. (Florida State University)
Head and Associate Librarian, Catalog (1971-1980).

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Keeper of the Herbarium and Associate Curator of Vascular Plants, Florida State Museum, and Joint Associate of Botany (1981-1981).

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WILSON, HAROLD ARNOLD, Ph.D. (University of Iowa)
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WOODWARD, EDWARD R., M.D. (University of Chicago)
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WOOTEN, DAVID G., B.S. (University of Central Florida)
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Extension Agent II, Hamilton County (1952-1963).

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HODYSS, LORETTA B., M.S. (University of Delaware)
Extension Agent I, Ornamental Horticulture, Palm Beach County (1979-1979).

HOLLOWAY, DONALD L., Ms.S. (Brigham Young University)
Extension Agent I, 4-H Coordinator, Holmes County (1979-1979).

HULL, DEARMAND L.R., M.S. (University of Delaware)
Extension Agent II, Ornamentals, Palm Beach County (1971-1978).

HOMRICH, ALICIA M., M.S. (Florida International University)
Extension Agent I, Home Economics, Bradford County (1979-1979).

HUGHES, BARBARA A., M.S. (University of Oklahoma)
Extension Agent I, Home Economics, Seminole County (1980-1980).

HUMPHRYS, BROOKS, M.S. (University of Florida)
Extension Agent II, Citrus, Multi-County, Brevard County (1974-1974).

HUNTER, JACQUELINE D., B.S. (Bennett College)
Extension Agent I, 4-H ENP, Hillsborough County (1980-1980).

HURNER, GEORGE TIMOTHY, JR., M.S. (University of Florida)
County Extension Director and Extension Agent II, Highlands County (1965-1965).

HUTCHESON, CLAYTON ELBERT, M.S. (University of Florida)
County Extension Director and Extension Agent III, Palm Beach County (1970-1976).

IPPOLITO, ANDREW J., M.S. (University of Alaska)
County Extension Director and Extension Agent I, MAP, Charlotte County (1981-1981).

IVERSON, MARLOWE KEITH, M.S. (University of Vermont)
Extension Agent II, Horticulture & 4-H, Manatee County (1974-1979).

JACKSON, ELIZA MOXLEY, B.S.H.E. (Georgia College at Millidgeville)
Extension Home Economics Agent II, Bay County (1962-1962).

JACKSON, JOHN LESLIE, JR., M.Agr. (University of Florida)
Extension Agent IV, Citrus, Multi-County, Lake County (1968-1971).

JASA, FRANK JOSEPH, B.S.A. (University of Florida)
County Extension Director and Extension Agent II, Seminole County (1957-1969).

JENSEN, NAN, M.S. (Florida State University)
Extension Home Economics Agent II, Pinellas County (1975-1980).

JETER, ANN PIERCE, M.S. (Florida State University)
Extension Home Economics Agent III, Okaloosa County (1956-1969).

JOHNSON, LEIGH T., M.S. (University of Michigan)
Extension Agent I, MAP, Brevard County (1979-1979).

JONES, ARLEN CUNNINGHAM, B.S.H.E. (University of Oklahoma)
Extension Home Economics Agent III, Palm Beach County (1963-1970).

JONES, DELORIS MAE, M.S. (Florida A&M University)
Extension Agent II, Home Economics, Madison County (1960-1969).

JONES, HAROLD CHARLES, M.A. (University of Florida)
Extension Agent II, Ornamentals, Duval County (1971-1971).

JOWERS, HENRY EDGAR, M.S. (University of Florida)
County Extension Director and Extension Agent II, Madison County (1971-1979).

KALUCKI, CHRISTINA, B.S. (University of Massachusetts)
Extension Agent I, Energy, Palm Beach County (1980-1980).

KASTAN, CHRISTINE A., B.S. (Florida International University)
Extension Agent I, 4-H, ENP, Broward County (1978-1978).

KELLY, EARL MCNEIL, Ph.D. (Florida State University)
County Extension Director and Extension Agent IV, Lake County (1949-1980).

KELLY, MICHAEL G., M.S. (University of North Carolina)
Extension Agent II, Dairy, Multi-County, Duval County (1976-1981).

KELT, MARCIA L., B.S. (University of Florida)
Extension Agent I, Horticulture, Duval County (1980-1980).

KERSEY, ALICE P., M.S. (Michigan State University)
Extension Agent III, 4-H, Polk County (1967-1976).

KLATT, ELAINE THERESE, M.S. (Eastern Michigan University)
Extension Home Economics Agent II, ENP, Broward County (1974-1979).

LAW, JO S., M. S. (Florida State University)
Extension Home Economics Agent I, 4-H, ENP, Leon County (1981-1981).

LAWLOR, FRANK J., M.S. (Texas A&M University)
Extension Agent I, MAP, Palm Beach County (1976-1976).

LISTER, OPAL, B.S. (University of Mississippi)
Extension Home Economics Agent II, Escambia County (1975-1979)

LLEWELLYN, WILLIAM R., M.S.A. (University of Florida)
Extension Agent II, Broward County (1973-1973).

LOADHOLTZ, JOSEPH LOWELL, M.A. (University of Florida)
County Extension Director and Extension Agent IV, Brevard County (1961-1971).

LOADHOLTZ, LARRY LEWIS, M.S. (University of Florida)
County Extension Director and Extension Agent IV, Volusia County (1961-1970).

LOCKETT, LINDA J., M.S. (University of Florida)
Extension Agent I, Home Economics, ENP, Lee County (1981-1981).

LOOMIS, WILLIAM W., M.B.A. (Ball State University)
Extension Agent I, Energy, Sarasota County (1980-1980).

LOVEJOY, LINDA J., M.S. (West Virginia University)
Extension Agent I, Home Economics, Brevard County (1979-1979).

LOVETT, HAROLD W., M.S. (University of Georgia)
Extension Agent I, Energy, Escambia County (1980-1980).

LOWERY, CHARLIE AVERY, M.S. (Mississippi State University)
Extension Agent II, 4-H and Ornamentals, Collier County (1974-1979).

MACCUBBIN, THOMAS J., M.S. (University of Maryland)
Extension Agent III, Horticulture, Orange County (1972-1976)

MANOOKIAN, KATHY E., B.S.A. (University of Florida)
Extension Agent I, Livestock, Highlands County (1981-1981)

MARSHALL, DAVID W., M.S. (University of Georgia)
Extension Agent II, Ornamentals, Leon County (1979-1981).

MARTIN, JULIANN STOUCH, B.S. (Florida State University)
Extension Home Economics Agent II, ENP, 4-H, Polk County (1974-1979).

MASTERYANNI, JANITH, M.S. (Purdue University)
County Extension Director and Extension Agent III, Charlotte County (1974-1979).

MCCOY, SANDRA LEE, B.S. (Central Michigan University)
Extension Home Economics Agent II, ENP, Dade County (1973-1973)

MCDANIEL, MILTON C., M.S. (University of Georgia)
Extension Agent I, Livestock, Volusia County (1977-1977).

MEADOWS, JEANNETTE, M.S. (Florida State University)
Extension Home Economics Agent III, Sarasota County (1965-1976).

MILLER, RUTH ANN, B.S. (Pennsylvania State University)
Extension Home Economics Agent III, Polk County (1969-1973).

MOORE, DIANE D., B.S. (Ohio State University)
Extension Agent I, Home Economics, ENP, Lee County (1979-1979).

MOORE, MARY ALLEN, M.A.T. (Rollins College)
Extension Home Economics Agent III, Orange County (1954-1969).

MOORE, MARJORIE, M.Ed. (Florida A&M University)
Extension Agent I, Home Economics, ENP, Escambia County (1977-1978).

MOORE, RALPH WILLIAM, B.S. (Ohio State University)
Extension Agent II, 4-H, Livestock, Urban Gardening, Dade County (1967-1969).

MORRIS, JAMES H. JR., B.A. (St. Leo College)
Extension Agent I, 4-H, Hernando County (1980-1980).

MOTT, CAROLE ELAINE BAILEY, B.S. (Florida State University)
Extension Home Economics Agent II, Taylor County (1973-1973).

MURRAY, SUSAN J., M.S. (Kansas State University)
Extension Agent I, 4-H, Hillsborough County (1980-1980).

NEWBURY, GEORGE H., M.S. (University of Florida)
County Extension Director and Extension Agent II, Flagler County (1970-1973).

NEWTON, ROGER DALE, M.S. (University of Missouri)
Extension Agent IV, Ornamental Horticulture, Hillsborough County (1972-1981).

NORTON, MARTHA BURDINE, M.S.H.E. (Florida State University)
Extension Home Economics Agent II, Martin County (1952-1956).

ODEGAARD, WAYNE M., M.S. (University of Minnesota)
County Extension Director and Extension Agent II, Lafayette County (1981-1981).

O'NEAL, JANICE H., B.S. (Florida State University)
Extension Agent I, 4-H, Clay County (1974-1974)

OSWALT, THOMAS W., M.S. (University of Florida)
Extension Agent IV, Citrus, Polk County (1963-1980).

PARRAMORE, ANN W., M.S. (Florida A&M University)
Extension Agent Home Economics Program Leader III, Leon County (1967-1979).

PHILLIPS, WILLIAM JOSEPH, JR., M.S. (University of Florida)
Extension Agent III, Horticulture, Multi-County (1967-1969).

PORTER, VICTORIA L., B.S. (Auburn University)
Extension Agent I, 4-H, Suwanee County (1981-1981).

PRICE, EVA V., B.S. (Northeast Louisiana University)
Extension Agent I, Home Economics, Hillsborough County (1981-1981).

PYBAS, DONALD W., M.S. (Texas A&M University)
Extension Agent I, MAP, Dade County (1978-1978).

RABINOWITZ, LARRY, M.S. (University of Florida)
Extension Agent I, Ornamentals, Sarasota County (1981-1981).

REDDING, CAROLYN V., B.S.A. (University of Florida)
Extension Agent I, 4-H, Bradford County (1981-1981).

RENNER, ROBERT LEWIS, JR., M.A. (University of Florida)
Extension Agent II, 4-H Marion County (1973-1973).

RICHARDS, JAMES EDWARD, M.S.A. (University of Florida)
County Extension Director and Extension Agent III, Hillsborough County (1969-1979).

ROBERTSON, EDWENA JEANETTE, B.S.H.E. (University of Georgia)
Extension Home Economics Agent III, Escambia County (1954-1969).

ROSE, SYLVESTER A., M.S. (Ohio State University)
Extension Agent IV, Ornamentals, Brevard County (1956-1973).

ROSS, DOUGLAS A., M.A. (Texas A&M University)
Extension Agent I, Horticulture, Hendry County (1980-1980)

ROWAN, CHARLES EDISON, M.Agr. (University of Florida)
County Extension Director and Extension Agent III, Dixie County (1954-1979).

ROWAN, EDSEL WRIGHT, B.S.A. (University of Florida)
County Extension Director and Extension Agent III, Marion County (1950-1969).

ROWAN, JOHN PHILLIP, M.Ag. (University of Florida)
Extension Agent I, Livestock, Suwanee County (1980-1980).

ROZAR, LUTHER LYNSON, M.Ag. (University of Florida
County Extension Director and Extension Agent III, Sarasota County (1958-1969).

RUSSELL, JOHN COLEMAN, M.Ag. (University of Florida)
County Extension Director and Extension Agent IV, Gadsden County (1952-1970).

RYE, SYLVIA A., M.S. (University of Southern Mississippi)
Extension Agent I, Home Economics and 4-H, Polk County (1979-1979).

SALISBURY, MARY BETH, B.S. (Mansfield State College)
Extension Agent I, Home Economics, Osceola County (1981-1981).

SATCHER, JOY WREN, M.S. (Florida State University)
Extension Home Economics Agent III, Brevard County (1966-1971).

SCHULTZ, WILMAR A., M.S. (University of Florida)
County Extension Director and Extension Agent I, Okeechobee County (1977-1981).

SCHWARTZ, STEPHEN K., M.S. (Mississippi State University)
Extension Agent I, Ornamental Horticulture, Charlotte County (1981-1981).

SCOTT, LENZY MAURICE, M.Agr. (University of Florida)
County Extension Director and Extension Agent II, Washington County (1955-1980).

SEAWRIGHT, TRAVIS, B.S. (Mississippi State University)
Extension Agent II, Livestock, Manatee County (1975-1980).

SELPH, JAMES F., M.S. (University of Florida)
County Extension Director and Extension Agent I, DeSoto County (1979-1979).

SHERMAN, DAVID L., M.S. (University of Florida)
Extension Agent I, CRD, Agriculture, Madison County (1980-1980).

SHIRAR, MARYLOU WAYMIRE, M.S. (Florida Atlantic University)
Extension Home Economics Agent III, 4-H, Palm Beach County (1959-1970).

SHOOK, ELAINE, M.S. (Florida State University)
Extension Agent I, Home Economics, Leon County (1975-1980).

SHULER, KENNETH D., M.S. (University of Florida)
Extension Agent I, Vegetables & General Agriculture, Palm Beach County (1976-1976).

SIMMONS, GLINDER, B.S. (University of Florida)
Extension Agent I, Home Economics, Orange County (1979-1979).

SMITH, CLARA ANN, B.S. (Ohio State University)
Extension Agent II, Home Economics, Pasco County (1963-1963).

SMITH, PATRICIA A., M.S. (University of Alabama)
County Extension Director and Extension Agent II, Baker County (1974-1980).

SMITH, WILLIAM CARLTON, Ph.D. (Louisiana State University)
County Extension Director and Extension Agent III, Suwannee County (1957-1973).

SPEARS, DENIS D., B.S. (University of Florida)
Extension Agent I, Agronomy, 4-H, Washington County (1980-1980).

SPEARS, JACK JAMES, M.S. (University of Florida)
County Extension Director and Extension Agent III, Holmes County, (1965-1979).

SPELBRING, MARK C., M.S. (Purdue University)
Extension Agent II, Livestock, Pasco County (1976-1981).

SPIRTAS, NEIL H., M.S. (University of Missouri)
Extension Agent I, CRD, Baker County (1980-1980).

SPYKE, PETER D., M.S. (University of Florida)
Extension Agent II, Citrus, St. Lucie County (1977-1977).

STANLEY, PAULA PARIS, H.E.Ed. (University of Florida)
Extension Home Economics Agent II, Citrus County (1964-1964).

STEPHENS, ERNEST LEE, M.S.A. (University of Florida)
Extension Agent II, 4-H, Duval County (1972-1972).

STEVELY, JOHN M., M.S. (University of Florida)
Extension Agent I, MAP, MC Manatee County (1979-1979).

STRICKER, JAMES A., M.S. (University of Missouri)
Extension Agent I, Farm Management, Polk County (1979-1979).

SUMNER, SIDNEY LANIER, M.S. (University of Florida)
Extension Agent III, Beef Cattle, Polk County (1965-1969).

SUNDEEN, VIRGINIA R., B.S. (University of Minnesota)
Extension Agent I, Home Economics, Alachua County (1979-1979).

SWANSON, RUSSELL H., M.S. (Iowa State University)
Extension Agent I, Horticulture, Lake County (1980-1980).

SWEAT, DONALD E., M.S.
Extension Agent II, MAP, Multi-County, Pinellas County (1976-1980).

SWEAT, MICHAEL S., M.A. (University of Florida)
Extension Agent I, Agriculture, Baker County (1980-1980).

TAVSS, MARGO G., B.S. (University of Georgia)
Extension Agent I, 4-H, Broward County (1973-1973).

TAYLOR, BOBBY LEE, M.Agr. (University of Florida)
County Extension Director and Extension Agent III, Bradford County (1963-1971).

TAYLOR, DORIS, M.S. (University of Tennessee)
Extension Home Economics Agent II, Lake County (1973-1973).

TAYLOR, MEREDITH C., M.S. (University of Florida)
Extension Home Economics Agent III, Suwannee County (1969-1978).

TAYLOR, SANDRA L., M.S. (University of Tennessee)
Extension Agent I, Home Economics, P.L., St. Johns County (1978-1978).

THIGPEN, JANET M., B.S. (University of Florida)
Extension Agent I, 4-H, Madison County (1981-1981).

THOMAS, WILLIAM D., M.S. (University of Florida)
County Extension Director and Extension Agent I, Columbia County (1977-1979).

THOMASON, GLEN E., B.S. (Auburn University)
Extension Agent I, Agronomy, Okaloosa County (1980-1980).

THOMASTON, JAMES EDSEL, M.Agr. (University of Florida)
County Extension Director and Extension Agent III, Walton County (1954-1969).

THOMPSON, ESSIE HOGAN, B.S.H.E. (Florida State University)
Extension Home Economics Agent II, Putnam County (1961-1963).

TILTON, WILLIAM A., M.S. (University of Florida)
County Extension Director and Extension Agent I, Putnam County (1978-1978).

TOWNSEND, DALLAS B., M.S. (University of Florida)
County Extension Director and Extension Agent III, Hendry County (1965-1979).

TOWNSEND, JO M., B.S. (Florida Technological University)
Extension Agent II, Energy, Duval County (1972-1977).

VEIGA, MARY S., M.S. (University of North Colorado)
Extension Agent I, Home Economics, Nassau County (1980-1980).

VERNON, BETTY MARTIN, B.S.H.E. (Florida State University)
Extension Home Economics Agent III, Volusia County (1969-1977).

WADE, WAYNE THEODORE, M.Ed. (University of Florida)
Extension Agent III, Beef, Hillsborough County (1961-1978).

WAKEFIELD, JUDITH, M.S. (University of Tennessee)
County Extension Director and Extension Agent II, Indian River County (1975-1975).

WALTHALL, CHARLES MIDDLETON, M.S. (University of Tennessee)
County Extension Director and Extension Agent III, Okaloosa County (1966-1980).

WASHINGTON, MARTHA MARIE, B.S. (Florida A&M University)
Extension Home Economics Agent II, Leon County (1970-1978).

WATSON, LEWIS ELBYRNE, M.Agr. (University of Florida)
Extension Agent IV, Ornamentals, Broward County (1955-1971).

WEAVER, MARVIN FRANKLIN, M.S. (Williams College)
County Extension Director and Extension Agent II, Gilchrist County (1972-1980).

WEBB, HELEN P., B.S. (East Kentucky University)
Extension Agent II, Hillsborough County (1963-1966).

WHIGHAM, NANCY BRIGHTMAN, B.S.H.E. (Auburn University)
Extension Home Economics Agent II, Pinellas County (1962-1962).

WHITTON, GILBERT MARSHALL, M.Agr. (University of Florida)
County Extension Director and Extension Agent IV, Pinellas County (1957-1969).

WHITTY, ROBERT BEZELLE, B.S.A. (University of Florida)
County Extension Director and Extension Agent II, Horticulture, Martin County (1965-1970).

WILKINS, DELORIS H., M.S. (Rollins College)
Extension Agent II, Home Economics, Orange County (1977-1977).

WYATT, JENTA R., M.S. (Rutgers University)
Extension Agent I, Home Economics, Hardee County (1978-1978).

YATES, DIANE ELIZABETH, M.S. (Florida State University)
Extension Home Economics Agent I, Volusia County, (1971-1971).

YINGST, VICTOR W., M.S. (Florida Southern College)
Extension Agent II, Horticulture, Lee County (1976-1981).

YOUNG, BECKY EPPERLY, M.S. (Florida State University)
Extension Home Economics Agent II, 4-H, Walton County (1974-1978).

ZABOR, MARCIA L., B.S. (Florida State University)
Extension Agent Home Economics I, Marion County (1976-1978).

ZERBA, RAYMOND H JR., M.Agr. (University of Florida)
Extension Agent II, Ornamental Horticulture, 4-H, Monroe County (1975-1980).

MEMBERS OF THE FACULTY WHO RETIRED SINCE 1960 AND THOSE WITH EMERITUS STATUS

ADAMS, FRANK THOMPSON, Ed. D. (University of Florida)
Dean for Student Development, Emeritus (1973).

AHRANO, ELIZABETH CERMAK
Extension Home Economics Agent I, IFAS, County Work (1972).

AHRENS, MAURICE RUSSELL, Ed.D.
Professor Emeritus of Materials Science and Engineering (1973).

ALBRECHT, RUTH E., Ph.D. (University of Chicago)
Professor Emeritus of Sociology (1975).

ALEXANDER, W. M.
Professor Emeritus of Education (1977).

ALLEGER, DANIEL EUGENE, M.S. (Pennsylvania State University)
Associate Professor Emeritus, Food and Resource Economics Department, IFAS (1973).

ALLEN, VIRIGINIA FRICK, M.Ed.
Instructor, P.K. Yonge Laboratory School (1975).

ALLIGOOD, EDGAR RALEIGH, M.Ed. (University of Florida)
Director, Department of Independent Study of Correspondence, Division of Continuing Education (1978).

ALLISON, ROBERT VERRILL, Ph.D. (Rutgers University)
Fiber Technologist Emeritus, Everglades Experimental Station (1965).

ALSTON, CLIFFORD, M.S.A.
Professor Emeritus of Agricultural Economics (1971).

AMBROSE, EDNA VIRGINIA, Ed.D (Columbia University)
Associate Professor of Education (1979).

ANDERON, CARL ARTHUR, M.B.A. (University of Florida)
Associate Professor Emeritus of Accounting (1978).

ANDERSON, MONTGOMERY D., Ph.D. (Brookings)
Professor Emeritus of Economics (1971).

ANDERSON, RICHARD JAMES, Ph.D. (University of Michigan)
Professor of Psychology, Associate University Counseling Center (1979).

ANDREWS, RANCE ADAMS, B.S.A.
County Extension Director II, Hamilton County (1981).

APPERSON, FRANCES EUGENIA, B.A. in L.S.
Librarian and Chairperson of Documents Department (1975).

ARNETT, WILLIAM TOBIAS, M.A.Arch.
Professor of Architecture; Dean Emeritus, College of Architecture and Fine Arts (1974).

ARNOLD, LUTHER A., Ed.D.
Associate Professor Emeritus of Education (1973).

ARNOLD, P.T., M.S.A.
Associate Professor Emeritus, RFUF (1959).

ATKINS, CEDRIC DONALD,
Professor, IFAS, AREC, Lake Alfred (1972).

AUSTIN, OLIVER LUTHER, JR., Ph.D. (Harvard University)
Curator Emeritus of Ornithology, Florida State Musuem (1973).

BACHMAN, HAROLD BURTON, B.S.
Professor Emeritus of Music (1961).

BAKER, MELVIN CHARLES, Ed.D. (University of Illinois)
Professor of Education and Assistant Dean, College of Education (1977).

BANNISTER, TURPIN CHAMBERS, Ph.D. (Harvard University) D.F.A. (Denison University)
Professor of Architecture and Dean Emeritus of the College of Architecture and Fine Arts.

BANTLEON, GEORGE F., M.D. (University of Rochester)
University Physician (1977).

BARRON, DONALD H., Ph.D. (Yale University)
Professor of Obstetrics and Gynecology (1975).

BASSETT, MAMIE G., B S.H.E. (University of Tennessee)
Extension Agent III (1975.)

BATES, ROGER GORDON, Ph.D. (Duke University)
Professor Emeritus of Chemistry (1979).

BAUGHAN, DENVER EWING, Ph.D. (Yale University)
Professor Emeritus of English (1967).

BAULT, ROGER QUINCY, M.A.
Assistant Professor Emeritus of Physical Science, RFUF (1966).

BAXTER, JOHN FRANKLIN, Ph.D (Johns Hopkins) Honorary D.SC. (Bethany)
Distinguished Service Professor Emeritus of Chemistry (1978)

BEARD, PERCY M..
Associate Professor Emeritus, RFUF.

BEARDSLEY, DANIEL WALDO, Ph.D. (University of Illinois)
Professor (Animal Nutritionist), IFAS Agricultural Research and Educational Center, Belle Glade (1978).

BEATY, ROBERT C., M.A. (Vanderbilt University)
Dean of Students, Emeritus (1960).

BEAUVAIS, JUNE T., B.A. (Piedmont College)
Instructor (1973).

BECKENBACH, JOSEPH RILEY, Ph.D. (Rutgers University)
Director Emeritus of Agriculture Experiment Station (1967).

BECKER, RAYMOND BROWN, Ph.D. (University of Minnesota)
Professor Emeritus of Dairy Science; Dairy Husbandman Emeritus, Agriculture Experiment Station (1963).

BECKWITH, STEPHEN L., Ph.D. (University of Michigan)
Associate Professor Emeritus, IFAS, School of Forest Resources and Conservation, Agricultural Experiment Station.

BENNETT, ROBERT BROADHURST, Ph.D. (Purdue University)
Professor Emeritus of Chemical Engineering (1979).

BENNETT, S. FLEMING B.S.L.S.
Assistant Director of Libraries (1976).

BENNINGER, LAWRENCE J., Ph.D. (University of Missouri)
Professor Emeritus of Accounting (1978).

BENTLEY, GEORGE ROBERT, Ph.D. (University of Wisconsin)
Professor of Social Sciences and History, (1980).

BINGHAM, N. ELDRED, Ph.D. (Columbia University)
Professor Emeritus of Education (1971).

BIZETTE, JUSTINE LAMBERT, B.S.H.E.
Extension Home Economics Agent II, Dade County (1981).

BLACK, ALVIN PERCY, Ph.D. (University of Iowa)
Research Professor Emeritus of Chemistry and Professor Emeritus of Environmental Engineering Sciences (1966).

BLACKMON, GULIE H., M.S.A.
Horticulturist Emeritus, Agricultural Experiment Station (1954).

BLAKE, ROBERT GEORGE, Ph.D. (University of Florida)
Associate Professor of Mathematics (1976).

BLALOCK, LEW LEWIS F.
Director of Admissions Emeritus (1966).

BLANTON, FRANKLIN S., Ph.D. (Cornell University)
Professor Emeritus of Entomology (1974).

BLEDSOE, SUE B., B.S. (West Kentucky State University)
Extension Agent III (1976).

BLOCK, HERMAN H., C.E.
Professor Emeritus of Building Construction and Chairman of the Department (1963).

BLODGETT, RALPH HAMILTON, Ph.D. (University of Pennsylvania)
Associate Director of Personnel (1977).

BLOODWORTH, BERTHA ERNESTINE, Ph.D. (University of Florida)
Assistant Professor of English (1978).

BLOODWORTH, THOMAS H., M.A. (University of Florida)
Associate Director of Personnel (1977).

BOURKE, NORMAN, M.E.
Professor Emeritus of Mechanical Engineering (1960).

BOWERS, ROBERT HOOD, JR., Ph.D. (Yale University)
Professor of English and Curator of Rare Books (1975).

BOWMAN, JOHN F., D.M.D. (Tufts University)
Professor Emeritus, College of Denistry (1979).

BOYD, FREDERICK TILGHMAN, Ph.D. (University of Wisconsin)
Professor Emeritus (Agronomist), IFAS (1974).

BRADBURY, ROBERT WESLEY, Ph.D. (University of Michigan)
Professor Emeritus of Economics (1975).

BRADLEY, RICHARD L., B.S.A.
Extension Agent I, Sumter County (1974)

BRADSHAW, JAMES P., M.A., M.S.
Associate Professor of English (1977).

BRADY, MARNA V., Ed.D. (Columbia University)
Professor Emeritus of Comprehensive Logic (1971).

BRANCH, JOHN T. JR., M.B.A. (Southern Methodist University)
Coordinator, Department of Extended Services, Division of Continuing Education (1977).

BRELAND, HERMA LEROY, Ph.D. (University of Illinois)
Professor of Soil Science (Soil Chemistry), IFAS (1979).

BRINKLEY, HARRY J.,
County Agent Emeritus, RFUF.

BRISTOL, LORIS R., M.A. (University of Florida)
Assistant Professor Emeritus in Counseling Education (1969).

BRINLEY, HARRY J.,
County Agent Emeritus, RFUF.

BRISTOL, LORIS R., M.A. (University of Florida)
Assistant Professor Emeritus in Counseling Education (1969).

BRISTOR, JOHN D., M.S.
Professor Emeritus of Building Construction (1973).

BROOKE, DONALD LLOYD, Ph.D. (University of Illinois)
Professor Emeritus, Food and Resource Economics (1980).

BROOKER, MARVIN A., Ph.D. (Cornell University)
Professor and Dean Emeritus, IFAS (1971).

BROOKS, HAROLD KELLY, Ph.D. (Harvard University)
Professor of Geology, Civil Engineering and Coastal Engineering (1979).

BROWN, HENRY CLAY, Ph.D. (University of Florida)
Professor of Chemical Engineering and Professor of Chemistry (1978).

BROWN, WOODROW W., M.Agr. (University of Florida)
Professor Emeritus, IFAS, Cooperative Extension Service (1972).

BUCHER, JOHN F., D.D.S. (University of Pittsburgh); M.S. (University of Michigan)
Professor Emeritus of Endodontics, College of Dentistry (1980).

BUNTING, DONALD CHARLES, M.S.
Associate Professor of Physical Sciences (1975).

BURDINE, HOWARD WILLIAM, Ph.D. (Cornell University)
Professor (Soils Chemist), IFAS Agricultural Research and Education Center, Belle Glade (1976).

BURGIS, DONALD S., M.S.A. (University of Florida)
Professor Emeritus, Vegetable Crops, AREC-Bradenton (1979)

BUSBY, JOE NEIL, Ph.D. (University of Florida)
Professor, Dean for Cooperative Extension Services, IFAS (1976).

BUTTERWORTH, JAMES DONALD, Ph.D. (Northwestern University)
Professor Emeritus of Economics (1976).

CAKE, EDWIN W., Ph.D. (Cornell University)
Professor Emeritus, IFAS, Agricultural Experiment Station, Food and Resource Economics (1972).

CALDWELL, WOFFORD T., M.S.E.D.
Associate Professor Emeritus of Building Construction (1971).

CAMP, ARTHUR F., Ph.D. (Washington University)
Vice Director Emeritus, Citrus Experimental Station (1956).

CAMP, SUSAN C., M.S. (Columbia University)
Associate Professor Emeritus, IFAS, Florida Cooperative Extension Service (1971).

CAMPBELL, JOHN D., B.S.A.
County Extension Director III, Dade County (1975.

CANTRELL, FRED H., B.S.B.A. (University of Florida)
Director Emeritus of University Relations (1981).

CARLETON, WILLIAM G., J.D., M.A
Professor Emeritus of History and Political Science (1961)

CARLSON, EARL C., M.A. (Boston University)
Associate Professor (1974)

CARR, HORACE MIXON, B.S.A.
County Extension Director II, Bay County (1981).

CARROLL, WILLIAM R., Ph.D. (University of Minnesota)
Professor Emeritus of Bacteriology (1966).

CARSON, MARION C., M.B.A. (University of Florida)
Assistant Professor, RFUF.

CARVER, WILLIAM A., Ph.D. (State University of Iowa)
Professor Emeritus of Agronomy, IFAS (1964).

CAUSEY, JOHN HJALMAR, B.S.A.
Extension Agent III, Vegetables and Sugar Cane, Palm Beach County (1977).

CHAPMAN, HERBERT LEE, JR., Ph.D. (Iowa State University)
Center Director and Professor, Animal Science, AREC-ONA (1981).

CHAPMAN, WILLIS HARLESTON, M.S. (North Carolina State University)
Professor, (Agronomist), and Center Director, IFAS, Agricultural Research and Education Center, Quincy (1978).

CHEVES, FOREST A., M.S. (Trinity University)
Associate in Chemistry (1980).

CHRISTIE, JESSE R., Ph.D. (George Washington University)
Nematologist Emeritus, Agricultural Experiment Station (1960).

CLARK, FRED, M.S.A. (University of Florida)
Professor of Agronomy, IFAS (1976)

CLARK, VERNON W., M.A. (New York University)
Professor Emeritus of Law (1974).

CLUFF, LEIGHTON E., M.D. (George Washington University)
Professor, Department of Medicine (1976).

COHEN, LOUIS DAVID, Ph.D. (Duke University)
Professor Emeritus of Clinical Psychology (1981)

COLE, MOSES MCWILLIE B.S. (Mississippi State University)
Assistant Professor (Assistant Entomologist), IFAS (1975).

COMBS, ARTHUR, WRIGHT, Ph.D. (Ohio State University)
Professor Emeritus in Education (1976).

CONNER, FREDERICK W.
Vice President for Academic Affairs (1971)

CONSTANS, HENRY P., LL.B., M.A. (University of Iowa)
Professor Emeritus of Speech (1965).

COOPER, ALICY JOYCE, Ed.D. (Columbia University)
Professor Emeritus of Education (1974).

COOPER, JOHN F., M.S.A.
Professor Emeritus, Agricultural Extension Service (1961).

COOPERRIDER, DONALD ELMER, D.V.N., M.S.C. (Ohio State University)
Professor (Parasitologist), College of Veterinary Medicine, IFAS, Florida Department of Agriculture, (1976).

COWEN, WILLIAM JOSHUA, B.S.A.
County Extension Director III, Union County (1976).

COX, E. H., Ph.D. (University of North Carolina)
Professor Emeritus, English, Arts & Sciences (1972).

CREIGHTON, JOHN THOMAS, Ph.D. (Ohio State University)
Professor Emeritus of Entomology (1969).

CRIST, RAYMOND E., Docteur Es Lettres (Grenoble, France)
J. Hillis Miller Research Professor Emeritus of Geography (1975).

CROUGH, HELEN JOHNSON, M.A.
Assistant Professor, P.K. Yonge Laboratory School (1975).

CROSS, CLARK IRWIN, Ph.D. (University of Washington)
Professor Emeritus of Geography and Physical Sciences (1980).

CUMBEE, CARROLL F., Sr., M.A.E. (University of Chicago)
Associate Professor Emeritus of Education (1969).

CUNHA, TONY JOSEPH, Ph.D. (University of Wisconsin)
Distinguished Service Professor Emeritus (Animal Nutritionist) and Chairperson of Animal Science Department, IFAS, (1975).

CUNNINGHAM, MYRON ARTHUR, Ed.D. (Northwestern University)
Professor Emeritus of Education (1975).

CUTLER, RONALD JOHN, Ed.D. (Columbia University)
Associate Professor of English (1974).

DALSHEIMER, BARBARA CORINNE, M.P.H. (University of Florida)
University School Assistant Professor, P.K. Yonge Laboratory School (1981).

DANBURG, RUSSELL LAVERNE, M.M.
Professor Emeritus of Music (1977).

DANIS, ANTHONY L., M.S. (Harvard University)
Professor Emeritus of Environmental Engineering Sciences (1967).

DAUER, MANNING JULIAN, Ph.D. (University of Illinois) Litt.D. (University of West Florida)
Distinguished Service Professor Emeritus of Political Science (1980).

DAVAULT, JAMES W., Ph.D. (Columbia University)
Professor Emeritus of Business Administration (1970).

DAVIDSON, ROBERT F., Ph.D. (Yale University)
Professor Emeritus of Humanities (1962).

DAVIS, JOHN H., Ph.D. (University of Chicago)
Professor Emeritus of Botany, IFAS (1969).

DAWSEY, POSTELLE GILPIN
County Extension Home Economics Agent III, Institute of Food and Agricultural Sciences, Florida Agricultural Extension Service, County Work (1972).

DECKER, PHARES, Ph.D. (Cornell University)
Professor Emeritus (Plant Pathologist), IFAS (1976).

DEINZER, HARVEY T., J.D., Ph.D. (University of Michigan)
Professor Emeritus of Accounting (1973).

DEKLE, GEORGE W., B.S.A. (University of Florida)
Associate Professor (1976).

DEWITT, ROBERT M., Ph.D. (University of Michigan)
Associate Professor Emeritus of Zoology and Vice-Chairman (1980).

DICKENSON, CARRIE E., M.S.
Professor Emeritus, IFAS (1969).

DICKENSON, ELIZABETH, M.A. (University of Tennessee)
Professor Emeritus, RFUF (1969).

DICKEY, RALPH DAVIS, M.S.A. (Cornell University)
Professor Emeritus (1973).

DICKINSON, JOSHUA CLIFTON JR., Ph.D. (University of Florida)
Director and Curator of Ornithology, Florida State Musuem (1979).

DIXON, BARMELL BLEDSOE, B.S.H.E.
Extension Home Economics Agent II, Pasco County (1976)

DIXON, J.C., Ph.D. (University of North Carolina)
Professor of Psychology (1979).

DONOVAN, CLEMENT HAROLD, Ph.D. (University of North Carolina)
Professor Emeritus of Economics (1977).

DOTY, FRANKLIN A., Ph.D. (University of Iowa)
Professor of History and Social Sciences and Dean Emeritus of University College (1971).

DRAGSTEDT, LESTER R., Ph.D. (Rush Medical College)
Research Professor Emeritus of Surgery and Professor Emeritus of Physiology (1973).

DRAVES, DOROTHY ENGLE, B.S.H.E.
Extension Home Economics Agent III, Pinellas County (1978).

DUCHARME, ERNEST P., Ph.D. (University of Minnesota)
Assistant Center Director and Professor, Plant Pathology, AREC-Lake Alfred (1981).

DUKES, NEAL MATTHEW, B.S.
County Extension Director III, Columbia County (1979).

DURELL, PHYLLIS B.,
Assistant to the President (1977).

DURRANCE, CHARLES L., Ed.D. (Columbia University)
Professor Emeritus of Education (1975).

DURRE, NOLAN L., M.S.
Extension Agent III, Vegetables, Dade County (1974).

EATON, ELIZABETH S., M.A.
University Librarian Emeritus, Health Center Library and Professor of Clinical Pharmacy (1975).

EBAUGH, NEWTON C..
Chairperson and Professor Emeritus, RFUF (1950).

EBY, EDNA S.
Extension Home Economics Agent III, Volusia County, IFAS, Florida Cooperative Extension Service, County Work (1971).

EDEN, WILLIAM GIBBS, Ph.D. (University of Illinois)
Professor Emeritus (Entomologist) and Chairperson, Entomology Department, IFAS (1975).

EDSON, SETON N., M.S. (University of Florida)
Associate Professor of Soils (1970).

EDWARDS, RICHARD A., Ph.D. (University of North Carolina at Chapel Hill)
Professor Emeritus of Geology (1974).

EGGERT, CHESTER LEE, Ed.D. (University of Indiana)
Professor Emeritus of Education (1975).

ELKINS, RUTH MCKEOWN
Extension Home Economics Agent III, Polk County, IFAS, Florida Cooperative Extension Service, County Work (1972).

ENWALL, HAYFORD OCTAVIUS, LL.B. (University of Florida)
Professor Emeritus of Law (1976).

EUTSLER, ROLAND B., Ph.D. (University of Pennsylvania)
Professor Emeritus of Economics, Business Administration (1970).

FAIN, JOHN TYREE, Ph.D. (Vanderbilt University)
Professor Emeritus of English (1975).

FAIRCHILD, ALEXANDER GRAHAM BELL, Ph.D. (Harvard University)
Professor (Entomologist) (1976).

FAIRING, ROBERT LEWIS
Associate Dean and Associate Professor, Division of Continuing Education (1972).

FEARNEY, EDWARD MAURICE, B.Arch. (Carnegie Institute)
Associate Professor Emeritus of Architecture (1980).

FENN, HENRY ANDERSON, LL.B. (Yale University)
Professor of Law, Dean Emeritus, and Distinguished Service Professor, College of Law (1978).

FERNANDEZ, PEDRO VILLA, M.A.
Professor Emeritus of Spanish (1966).

FIFIELD, WILLARD M., M.S.
Provost Emeritus for Agriculture (1962).

FLANIGAN, FRANK M., M.S., M.E.
Professor Emeritus of Mechanical Engineering (1970).

FOOTE, PERRY A., Ph.D. (University of Wisconsin)
Dean Emeritus of the College of Pharmacy and Professor of Pharmaceutical Chemistry (1967).

FORD, ERNEST S., Ph.D. (University of Chicago)
Professor Emeritus of Botany (1971).

FORSEE, WILLIAM T., Ph.D. (University of Florida)
Chemist Emeritus and Head, Everglades Experimental Station (1968).

FORSMAN, MARION E., Ph.D. (Iowa State University)
Professor Emeritus of Electrical Engineering (1974).

FOSTER, CHARLES R., Ed.D. (Harvard University)
Professor Emeritus of Education (1966).

FOUTS, EVERETT L., Ph.D. (State University of Iowa)
Professor of Dairy Science and Dairy Technologist Emeritus, IFAS (1970).

FOX, LAURETTA E., Ph.D. (University of Illinois)
Associate Professor of Pharmacology and Therapeutics (1975).

FRAZER, PERCY W., M.S. (Yale University)
Associate Professor Emeritus, Forestry (1975).

FRENCH, ROWLAND B., Ph.D. (University of Iowa)
Biochemist Emeritus, Agricultural Experiment Station (1967).

FURMAN, THOMAS DESAUSSURE, M.S.E. (University of Florida)
Professor Emeritus of Environmental Engineering Sciences and Affiliate Professor of Civil Engineering, (1980).

GAGER, WILLIAM ARKINS, Ph.D. (Peabody College)
Professor Emeritus of Mathematics (1968).

GAHAN, JAMES B., M.S.
Professor of Entomology and Administrative Officer, USDA, Entomology Research Laboratory (1970).

GAINES, CAROLYN J., M.S. (Florida State University)
Associate University Librarian (1976).

GAMMON, NATHAN, JR., Ph.D. (Ohio State University)
Professor of Soil Science (Soil Chemistry), IFAS (1979).

GARDNER, VIRGINIA DICKENS, B.S.H.E.
Extension Home Economics Agent III, Pinellas County (1981).

GARRIS, EDWARD W., Ph.D. (Peabody University)
Head and Professor Emeritus, RFUF (1962).

GEHAN, FREDERICK EDWARD, M.A.E.
Associate Professor of English (1977).

GELTZ, CHARLES G., M.S.F. (University of California)
Professor Emeritus, RFUF (1966).

GILBRAITH, KENNETH MARSHBURN, M.S.A.
Associate Professor, Food and Resource Economics Department, IFAS (1975).

GILCREAS, F. WELLINGTON, B.A. (Harvard University)
Professor Emeritus of Environmental Engineering Sciences (1968).

GLENN, WOODROW W., M.A. (University of Florida)
County Agent III (1975).

GODWIN, GRANT MURRAY, M.Agr.
Associate Professor (Associate State 4-H Club Agent), IFAS (1974).

GOIN, COLEMAN J., Ph.D. (University of Florida)
Professor Emeritus of Biological Sciences and Zoology (1971).

GOODWIN, FRANK, Ph.D. (University of Pennsylvania)
Professor Emeritus of Marketing (1965).

GOSLINGA, CORNELIS CH., Ph.D. (Carolus Magnus)
Professor of Humanities and History (1980).

GOUCK, HARRY KYDD, M.S. (University of Massachusetts)
Associate Professor (Associate Entomologist), USDA, IFAS (1974).

GRAEFFE, ARNOLD DIDIER, Ph.D. (Berlin)
Professor of Humanities (1978).

GRAMLING, LEA GENE, Ph.D. (University of Florida)
Professor of Pharmaceutical Chemistry (1979).

GRAND, JOHN LOUIS ROCHON, M.A.
Professor Emeritus of Architecture (1975).

GRAVES, SAMUEL RAY, B.A. (Tennessee)
Athletic Director Emeritus (1960-1979).

GREENE, CALVIN CLAY, M.S.M.E.
Director Emeritus of Physical Plant (1979).

GREENE, ROBERT EDWARD LEE, Ph.D. (Cornell University)
Professor Emeritus, Food and Resource Economics Department, IFAS (1975).

GREENMAN, JOHN ROOSEVELT, J.D. (University of Florida)
Professor Emeritus, Food and Resource Economics Department, IFAS (1973).

GREGORY, MARJORIE BUTLER, B.S.H.E.
Extension Home Economics Agent III, Gadsden County (1974).

GRIFFIN, ROBERT CUSHMAN, M.A.
Coordinator, Department of Extended Services, Division of Continuing Education (1977).

GRIFFITH, MILDRED, Ph.D. (University of California)
Professor Emeritus of Botany (1976).

GRISBY, SHAW EARL, Ph.D. (Cornell University)
Professor (Extension Program Specialist), IFAS (1975).

GRINTER, LINTON E., Ph.D. (University of Illinois)
Dean Emeritus and Professor (1973).

GROTH, JOHN H., Ph.D. (University of Washington)
Professor Emeritus of Humanities (1963).

HADLOCK, EDWIN H., Ph.D. (Cornell University)
Professor Emeritus, Arts & Sciences, Mathematics (1972).

HAINES, LEWIS FRANCIS, Ph.D. (University of Michigan)
Professor Emeritus of Behavioral Studies (1977).

HALE, LESTER L., Ph.D. (Louisiana State University)
Vice President for Student Affairs and Professor of Speech Emeritus (1973).

HALL, ROBERTA HALCOMB, M.S. (University of Alabama)
Associate Professor, (Extension Home Furnishings Specialist), IFAS, (1977).

HAMILTON, HENRY G., Ph.D. (Cornell University)
Professor Emeritus of Agricultural Economics and Agricultural Economist Emeritus, Agricultural Experiment Station and Agricultural Extension Service (1965).

HAMMOND, EUGENE ASHBY, Ph.D. (University of North Carolina)
Professor Emeritus of History and Social Sciences (1978).

HAMRICK, OLIVER RUDOLPH, M.Agr.
County Extension Director IV, Madison County (1977).

HANKS, ROBERT WILLIAM, Ph.D. (University of Chicago)
Associate Professor, Fruit Crops, AREC-Lake Alfred (1981).

HANNA, PAUL L., Ph.D. (Stanford University)
Professor Emeritus, RFUF (1972).

HARPER, VERNE L., Ph.D.
Professor Emeritus, Forestry (1972).

HARRELL, AUBREY LUTHER, M.Agr.
County Extension Director II, Baker County (1978).

HARRIS, BERT J., JR., B.S.A. (University of Florida)
County Agent III (1975).

HARRIS, HENRY C., Ph.D. (Cornell University)
Professor Emeritus of Agronomy, IFAS (1969).

HARROWER, MOLLY, Ph.D. (Smith College)
Professor Emeritus of Clinical Psychology (1975).

HART, THOMAS ALONZO EDWARD, Ph.D. (University of Michigan)
Professor of Humanities (1972).

HARVEY, WILLIAM B., A.B. (University of Pittsburgh)
Director, University Press (1977).

HASS, CHARLES GLEN, Ed.D. (Columbia University)
Professor Emeritus of Education (1981).

HATCHER, WILLIAM, B.S.A. (University of Arkansas)
County Agent III (1975).

HAYES, FRANCIS C., Ph.D. (University of North Carolina)
Professor Emeritus of Spanish (1973).

HAYMAN, JACK CARLTON, M.Agr.
County Extension Director III, Hardee County (1981).

HAYNIE, JOHN D., B.S.A.
Professor Emeritus of Entomology (1971).

HAYSLIP, NORMAN CALVIN, B.S.A. (University of Florida)
Professor Emeritus, IFAS, AREC-Ft. Pierce (1979).

HAYWARD, FREDERICK WARREN, Ph.D. (Cornell University)
Associate Professor (Associate Biochemist), IFAS, Agricultural Research and Educational Center, Lake Alfred (1975).

HEBERT, LEO P., Ph.D. (Louisiana State University)
Professor (1971).

HENDERSON, JOSEPH R., M.S.
Professor Emeritus (1969).

HERBERT, JOHN HENRY, M.S.A. (University of Florida)
Associate Professor, Soil Science (1981).

HERBERT, THOMAS WALTER, Ph.D. (Princeton University)
Distinguished Service Professor of English (1979).

HESTER, JANICE P., B.S. (University of Illinois)
Assistant University Librarian, RFUF.

HETRICK, LAWRENCE A., Ph.D. (Ohio State University)
Professor Emeritus, IFAS, Entomology and Nematology (1972).

HICKS, DORA ADELINE, Ed.D. (University of Texas)
Professor Emeritus of Health Education and Safety (1981).

HICKS, ROBERTA CHERRY, B.S.
Extension Home Economics Agent II, Baker County (1974).

HILLIARD, FRANCES PAULINE, Ed.D. (Columbia University)
Professor of Education (1979).

HINCKLEY, ELMER DUMOND, Ph.D. (University of Chicago)
Professor Emeritus of Psychology; Associate, University Counseling Center (1963).

HINES, VYNCE ALBERT, Ed.D. (University of Illinois)
Professor Emeritus of Education (1978).

HIXSON, IMOGENE, B.S. in L.S. (Louisiana State University)
Librarian and Chairman Emeritus, Catalog (1980).

HODGES, JULIUS BARNEY, Ed.D. (New York University)
Professor of Education and Director, P.K. Yonge Laboratory School (1981).

HOLBROOK, HOLLIS HOWARD, B.F.A.
Professor Emeritus of Art (1978).

HOLLINSHEAD, BYRON S., M.A., LL.D. (Grinnell University) L.H.D. (Miami University)
Professor of Humanities and Dean Emeritus of University College (1967).

HOLLIS, ROBERT P., B.S.
Assistant Professor Emeritus of Industrial and Systems Engineering (1968).

HORN, GRANVILLE CLIDE, Ph.D. (University of Florida)
Professor Emeritus (Ornamental Horticulturist), IFAS (1974).

HORNE, EDWARD PORTER, Ph.D. (University of Iowa)
Professor Emeritus of Psychology (1976).

HORTENSTINE, CHARLES C., Ph.D. (University of Florida)
Professor, Soil Science (1981).

HUEFF, GEORGE B., Ph.D. (University of Pennsylvania)
Professor Emeritus of Economics (1971).

HUNTER, GEORGE W., III, Ph.D. (University of Illinois)
Professor Emeritus of Microbiology (1967).

HUSA, WILLIAM J., Ph.D. (University of Iowa)
Head Professor Emeritus of Pharmacy (1961).

HUTCHERSON, WILLIAM R., Ph.D. (Cornell University)
Professor Emeritus of Mathematics (1969).

INGLE, DONA A., M.S. (University of Missouri)
Home Economics Agent II (1974).

INGLE, KELSEY H., M.S. (University of North Carolina)
Instructor Emeritus, RFUF, College of Engineering (1975).

JABERG, RUSSELL LOWELL, S.T.D. (Temple University)
Associate Professor Emeritus of Religion, (1980).

JACKSON, ELMO L., Ph.D. (Harvard University)
Professor Emeritus of Economics (1975).

JANES, MELVIN JOSEPH, Ph.D. (Iowa State University)
Associate Professor, (Associate Entomologist), IFAS, Agricultural Research and Education Center, Belle Glade (1977).

JENNINGS, ROBERT BENJAMIN, J.D. (University of Florida)
Associate Professor of Business Law, College of Business Administration (1978).

JOHNS, ROE L., Ph.D. (Columbia University), Hon. Ph.D. (University of Florida)
Professor Emeritus of Education, Education Administration (1971).

JOHNSON, CARL HENRY, Ph.D. (University of Washington)
Professor Emeritus of Pharmacognosy (1976).

JOHNSON, LOYS ALMON, M.S.C.E. (University of Wisconsin)
Professor Emeritus of Building Construction (1978).

JOHNSON, ROY IVAN, Ph.D.
Office of the Dean (1972).

JOHNSON, WARREN O., B.A.
Professor (1970).

JONES, ELISE C., B.A. (Agnes Scott)
Research Instructor Emeritus, Business Administration, Bureau of Economic.

JONES, JOHN PAUL, JR., M.A.
Professor and Dean Emeritus of Journalism and Communications (1978).

JORGENSON, MILFORD CHRISTEN
Extension Agent, Horticulture III, IFAS, County Work (1972).

JOYCE, JAMES B., D.D.S. (Marquette University)
Clinical Associate Professor (1975).

KAISER, WILLIAM FRANCIS, M.B.A. (University of Chicago)
Associate Engineer Emeritus in Electrical Engineering (1980).

KAUFMAN, CLEMENS MARCUS, Ph.D. (University of Minnesota)
Professor (SILVIC), IFAS (1976).

KEISTER, ELWOOD J., Ed.D. (Columbia University)
Professor Emeritus of Music (1980).

KELSHEIMER, EUGENE G., Ph.D. (Ohio State University)
Professor Emeritus, IFAS, Gulf Coast Experimental Station (1969).

KEPPEL, REUBIN A., M.S.E. (University of Florida)
Assistant Professor of Chemical Engineering (1973).

KIDDER, RALPH W., M.S.
Professor Emeritus of Animal Husbandry (1968).

KIKER, JOHN E., M.C.E.
Professor of Civil Engineering (1969).

KILBY, JOHN D., Ph.D. (University of Florida)
Associate Professor Emeritus (1974).

KILLINGER, GORDON BEVERLY, Ph.D. (Iowa State University)
Professor Emeritus (Forage and New Crops Management), and Assistant Chairperson, Department of Agronomy, IFAS, RFUF (1975).

KIMBALL, SOLON T., Ph.D. (Harvard University)
Graduate Research Professor Emeritus of Anthropology (1980).

KINARD, DRAYTON TUCKER, Ph.D. (Michigan State University)
Professor Emeritus (Agricultural Engineer), IFAS (1974).

KING, EMILY ELIZABETH, Ph.D. (University of Wisconsin)
Professor (Extension Program Specialist), IFAS (1979).

KIRK, WILLIAM G., Ph.D. (Iowa State University)
Animal Scientist and Vice-Director Emeritus, Range Cattle Experimental Station (1968).

KISER, LORA A., M.S. (North Carolina State University)
Professor Emeritus (Extension Home Economist), IFAS (1976).

KLEMENT, FRANK WILLIAM, M.A.
Assistant Professor of Engineering Graphics (1978).

KLUGE, RALPH W.
Professor Emeritus of Civil Engineering (1971).

KNORR, LOUIS C., Ph.D. (Cornell University)
Professor Emeritus, IFAS (1971)

KNOWLES, HAROLD L., Ph.D. (Kansas University)
Professor Emeritus, University College, Physical Sciences (1972).

KOEFOD, PAUL E., Ph.D. (University of Geneva)
Professor Emeritus of Economics (1979).

KOKOMOOR, FRANKLIN W., Ph.D. (University of Michigan)
Professor Emeritus of Math and Astronomy and Head of Department (1960).

KRESS, JACOB H., M.D. (University of Virginia)
Chief, Occupational Medicine (1977).

KREZDORN, ALFRED HERMAN, Ph.D. (Texas A&M University)
Professor (Horticulturist), Fruit Crops Department (1979).

KRIENKE, WALTER ALBERT, M.S.
Associate Professor Emeritus (Associate Dairy Technologist), IFAS (1976).

KRONSBEIN, JOHN, DR. rer. nat. (JENA)
Professor Emeritus of Metallurgical and Materials Engineering (1971).

KUITERT, LOUIS C., Ph.D. (University of Kansas)
Professor (1976).

KUNDEL, TEWES, M.S.
Associate Professor Emeritus of Electrical Engineering (1970).

KURTZ, ALBERT K., Ph.D. (Ohio State University)
Professor Emeritus of Psychology (1968).

LACKEY, JAMES BRIDGES, Ph.D. (Columbia University)
Professor Emeritus of Environmental Engineering Sciences (1966).

LAESSLE, ALBERT M.
Associate Professor, Arts & Sciences, Zoology (1972).

LANE, DAVID, Ph.D. (Columbia University)
Professor Emeritus of Education (1975).

LARRICK, THOMAS, M.Arch.
Professor Emeritus of Architecture (1971).

LAUTER, ELSA G.
Professor Emeritus, RFUF (1971).

LAWRENCE, FRED PARKER, M.S.A. (University of Florida)
Professor Emeritus of Fruit Crops (Citriculturist), IFAS (1974).

LEAVITT, BENJAMIN BURTON, Ph.D. (Harvard University)
Associate Professor of Zoology (1976).

LEAVITT, NORMA MURIEL, Ed.D. (Columbia University)
Professor Emeritus of Professional Physical Education (1981).

LEBER, GAIL W.
Assistant Professor (Assistant Meteorologist) IFAS, NWS, Agricultural Research Center, Lakeland (1975).

LEE, ROBERT C., Ph.D. (George Peabody College)
Associate Professor (1974).

LEONARD, CHESTER D., Ph.D. (Rutgers University)
Professor (Horticulturist), IFAS, Agricultural Research and Educational Center, Lake Alfred (1977).

LEWIS, EDWARD H., M.A. (University of Minnesota)
Associate Professor Emeritus in Engineering (1969).

LEWIS, HAL GRAHAM, Ph.D. (Columbia University)
Distinguished Service Professor Emeritus of Educational Foundations (1978).

LILES, ANNETTE LUCILLE, M.A.,B.A., in L.S. (University of North Carolina)
Librarian and Chairman Emeritus, Reference and Bibliography (1980)

LIPSCOMB, RALPH W., M.S.
Associate Professor Emeritus, IFAS, North Florida Experimental Station, Marianna Unit (1970).

LOFTEN, WILLIAM TRAVIS, M.A.E.
Associate Professor Emeritus of Agricultural and Extension Education, IFAS (1975).

LONG, STEPHEN GAND, M.A. (University of Florida)
Assistant Professor of English (1977).

LORZ, ALBERT P., Ph.D. (University of Virginia)
Professor Emeritus, IFAS, Vegetable Crops (1972).

LUNDY, HOSEA WILLIS, B.S.A.
Associate Professor Emeritus (Associate Agronomist), Agricultural Research Center, Live Oak, IFAS (1974).

MACLACHLAN, EMILY STEVENS, M.A
Assistant Professor of Social Sciences and Sociology (1975).

MAGIE, ROBERT ODGEN, Ph.D. (University of Wisconsin)
Professor (Plant Pathologist), IFAS Agricultural Research and Education Center, Bradenton (1977).

MALONEY, FRANK E., J.D. (University of Florida)
Dean Emeritus and Professor of Law (1973).

MARZKE, FREDERICK OTTO, Ph.D. (Michigan State University)
Professor (Entomologist), IFAS, USDA, Insect Attractant Behavior Research Laboratory (1975).

MARTINSON, EARL P., M.A.
Professor Emeritus of Industrial and Systems Engineering (1964).

MASE, DARREL J., Ph.D. (Columbia University)
Dean Emeritus of Health Related Professions (1971).

MASKIN, MEYER H., M.D. (Wayne University)
Professor Emeritus of Psychiatry, VAH, (1979).

MATHIS, BENJAMIN L., M.A.
Assistant to the Vice President for Student Affairs (1976).

MATTHEWS, CHARLES ARNOLD, Ph.D. (University of Virginia)
Professor Emeritus of Finance; Associate Dean, College of Business Administration (1982).

MAUDERLI, MAX O., Ph.D. (University of Pennsylvania)
Professor Emeritus (1974).

MAUTZ, ROBERT BARBEAU, J.D. (Yale University)
Regent's Professor Emeritus of Law and Higher Education (1980).

MCCACHREN, JAMES R., M.A. (University of North Carolina)
Assistant Professor of Physical Education (1980).

MCCOWN, JACK THOMAS, Ed.D. (North Carolina State University)
Professor and Director for Federal Affairs, IFAS (1981).

MCCULLARS, FORREST NOBLE, B.S.A.
County Extension Director II, Agriculture, Indian River (1975).

MCCUNE, SHANNON, Ph.D. (Clark University)
Professor of Geography (1979).

MCDONALD, ELLEN M., M.A.
Instructor, P.K. Yonge Laboratory School (1975).

MCELWEE, EDGAR W., Ph.D. (Ohio State University)
Professor Emeritus (1973).

MCFADDEN, SAMUEL EDGAR, JR., Ph.D. (University of Virginia)
Assistant Professor (Assistant Ornamental Horticulturist), IFAS (1976).

MCFERRIN, JOHN BERRY, Ph.D. (University of North Carolina)
Professor Emeritus of Finance and Associate Dean, College of Business Administration (1976).

MCGRAW, FRANK W.
Instructor Emeritus, P. K. Yonge Laboratory School (1977).

MCINTOSH, PLEASANT R., M.F.A.
Professor Emeritus of Art (1968).

MCLENDON, IDA R., Ph.D. (Ohio State University)
Associate Professor Emeritus of Education (1967).

MCMULLEN, KENNETH S., M.Ag.
Professor Emeritus, IFAS (1969).

MCNAIRY, ALICE HALL, M.L.N.
Librarian and Assistant Chairman of Acquisitions Department (1979).

MCPHERSON, WILLIAM KENNETH, M.S. (Iowa State University)
Professor Emeritus (Agricultural Economist), IFAS (1974).

MCQUITTY, JOHN V., Ph.D. (Kentucky)
Director Emeritus, Board of Examiners (1972).

MCSWINE, JOSEPHINE H., B.S.H.E. (Mississippi Southern College)
CED and Extension Agent I, RFUF (1967).

MEDLIN, QUENTIN, B.S.A.
County Extension Director II, Citrus County (1974).

MEHLBERG, HENRY, Ph.D. (University of Lvov)
Graduate Research Professor, Philosophy and Physics (1975).

MEHRHOF, NORMAN R., M.Agr.
Professor Emeritus of Poultry Science; Poultry Husbandman Emeritus, Agricultural Experiment Station (1963).

MENDENHALL, WILLIAM, Ph.D. (North Carolina State University)
Professor Emeritus of Statistics (1981).

MILES, GUY SIMPSON, Ph.D. (Vanderbilt University)
Associate Professor of English (1973).

MILLAR, JANE CARREE, M.A. (Ohio State University)
Assistant Professor of Physical Education (1976).

MILLER, HOWARD N., Ph.D. (University of California)
Professor (Plant Pathologist), Institute of Food and Agricultural Sciences (1978).

MILLER, JAMES CHARLES, B.S.
Extension Agent II, Madison County (1974).

MILLER, JAMES W. JR., M.S.F. (University of Florida)
Professor (Logging and Sawmilling), IFAS (1978).

MIMS, BERNICE A., M.A.
Professor Emeritus, RFUF (1958).

MITCHELL, JEAN O., M.A.E.
Instructor, RFUF (1958).

MONTELARO, JAMES, Ph.D. (University of Florida)
Professor, Vegetable Crops (1981).

MOORE, G. PAUL, Ph.D. (Northwestern University)
Distinguished Service Professor Emeritus of Speech (1980).

MOORE, WILLIAM EDGAR, Ph.D. (Peabody College)
Professor Emeritus, University College, Comprehensive Logic (1972).

MORGAN, WILLIAM H., Ph.D. (University of Florida)
Professor Emeritus of Environmental Engineering Sciences and Director, Water Resources Research Center (1979).

MORRIS, ALTON C., Ph.D. (University of North Carolina)
Professor Emeritus of English (1973).

MORRIS, CHARLES W., Ph.D. (Chicago)
Research Professor Emeritus, RFUF (1971).

MORSE, WALTER P., Ph.D. (University of Florida)
Associate Professor Emeritus of Mathematics (1971).

MUEHLNER, FELIX, U.J.D. (Frederick William)
Professor Emeritus, RFUF (1969).

MULL, LEON EDMUND, Ph.D. (Iowa State University)
Professor (Microbiologist), IFAS (1978).

MULLER, ALBERT S., B.S.A. (Cornell University)
Associate in (1973).

MULLINS, ROBERT SPENCER, Ph.D. (University of Minnesota)
Professor (Plant Pathologist), IFAS (1977).

MUMA, MARTIN H.
Professor (Entomologist), IFAS (1971).

MUNDY, BELVEY WASHINGTON, Ph.D. (University of Indiana)
Associate Professor of Physical Sciences (1979).

MURPHEE, CLYDE ELWYN, D.P.A. (Harvard University)
Associate Professor Emeritus, Food and Resource Economics Department, IFAS (1975).

MURPHREE, ALBERT ALEXANDER, B.A. (Oxford University)
Associate Professor of English, Adviser (1978).

MYERS, FOREST EARL, M.Ag. (University of Florida)
Professor (Assistant to the Dean), IFAS (1978).

MYERS, FRANCIS C., M.A. (Harvard University)
Assistant Professor Emeritus, RFUF (1971).

NEFF, THOMAS O'NEIL, M.S.E.
Associate Professor Emeritus of Mechanical Engineering (1975).

NELLER, JOSEPH R., Ph.D. (Rutgers University)
Soils Chemist Emeritus, Agricultural Experiment Station (1962).

NELSON, WALLACE MARTIN, Ph.D. (University of Florida)
Associate Professor of Social Sciences (1977).

NESMITH, JAMES, Ph.D. (North Carolina State University)
Associate Professor Emeritus (Soil Specialist), IFAS (1976).

NETTLES, VICTOR FLEETWOOD, Ph.D. (Cornell University)
Professor Emeritus (Horticulturist), IFAS (1975).

NEWTON, TISSOT A., Ph.D. (Ohio State University)
Entomologist Emeritus, Agricultural Experiment Station (1964).

NICKELSON, WILLIAM R.D.
Assistant Professor Emeritus of Electrical Engineering (1971).

NIELAND, LOUIS T.
Professor Emeritus, RFUF (1956).

NOLAN, WILLIAM JOHN, Ph.D. (University of Michigan)
Professor of Chemical Engineering (1977).

NORMAN, OSCAR NEWTON
Assistant Professor, IFAS, NWS, AREC-Lakeland (1972).

NULTON, LUCY, M.A.
Instructor Emeritus, P. K. Yonge Laboratory School (1973).

NUTTER, HAZEN EDWARD, M.A. (University of Florida)
Professor Emeritus of Education(1975).

O'CONNELL, STEPHEN CORNELIUS, J.D., LL.D. (Jacksonville University), D.Ed. (Biscayne College), LL.D. (Notre Dame University)
President Emeritus (1973).

O'STEEN, ALVA W., M.S.
Professor Emeritus, IFAS (1969).

O'QUINN, CLARENCE FENTRESS
County Agent II, IFAS, County Work (1972).

ODOM, ALBERT HILL, M.S.A.
County Extension Director II, Jefferson County (1975).

OLIVER, CLIFTON, JR., M.A. (Texas Technological College)
Associate Professor of Management (1981).

OLSON, WALDEMAR, Ed.D. (University of Texas)
Professor Emeritus of Education (1978).

ORAS, ANTS
Professor Emeritus of English (1972).

ORMOND, WILLIAM NEWMAN, M.A. (University of Florida)
Associate Professor Emeritus, English (1979).

ORSENIGO, JOSEPH R., Ph.D. (Cornell University)
Professor Emeritus (Plant Physiologist), IFAS, Agricultural Research and Educational Center, Belle Glade (1976).

OSBORN, GEORGE COLEMAN, Ph.D. (Indiana University)
Professor Emeritus of Social Sciences (1974).

OSTERBIND, CARTER C., Ph.D. (American University)
Professor Emeritus of Economics; Director of Center of Gerontological Studies and Programs (1981).

OTTE, BURTON J., M.S. (University of Florida)
Curator, RFUF (1962).

PACE, JAMES EDWARD, M.S.A. (University of Florida)
Professor (Animal Husbandry), IFAS (1979).

PAGE, RALPH E., Ph.D. (Syracuse University)
Professor and Dean Emeritus of Political Science, Arts and Sciences (1971).

PATTERSON, PAUL B., Ph.D. (University of Florida)
Assistant Professor, RFUF 1963.

PAULK, HARVEY T., M.Agr.
County Extension Director IV, Leon County (1981).

PAYNE, ANCIL N., Ph.D. (University of Illinois)
Professor of History (1970).

PEELER, RUTH B.,
Instructor, Education, P.K. Yonge Laboratory School (1972).

PENNER, RUTH TAYLOR, B.S.
Extension Home Economics Agent II, Hillsborough County (1981).

PENNINGTON, CLARK W., C.E.
Professor Emeritus and Associate Professor of Mechanical Engineering (1970).

PENROD, JOHN ARTHUR, Ph.D. (University of Pennsylvania)
Professor of English (1979).

PERRY, FRANKLIN S., M.Agr. (University of Florida)
Professor Emeritus (1974).

PETERSON, ERHART G., M.B.A., LL.B. (University of Florida)
Professor Emeritus of Accounting (1969).

PETTIS, AUDBREY M., M.S.A.
Associate Professor Emeritus (Associate Agricultural Engineer), IFAS (1975).

PEYTON, FLOYD A., DSC (University of Michigan)
Professor (1974).

PHANEUF, VICTOR S., B.S.E.
Associate Professor Emeritus of Building Construction (1969).

PHILPOTT, FRANK, Ed.D. (New York University)
Assistant Professor Emeritus of Physical Education (1966).

PIERCE, EMORY L., Ph.D. (University of Florida)
Professor Emeritus of Biological Sciences (1970).

PIERENIAN, ZAREH M., M.S .(University of Florida)
Associate Professor Emeritus of Mathematics (1972).

PLATT, WILLIAM J., JR., M.S.A.
Professor Emeritus, IFAS (1968).

POTTER, WILLIAM MELVILLE, M.A.
Assistant Professor of Physical Education (1978).

PRESCOTT, FORD L., M.E.
Professor Emeritus of Mechanical Engineering (1963).

PRICE, JOSEPH E., B.A.E.
Professor Emeritus of Social Sciences, Adviser (1968).

PRICE, RAYBURN KENNETH, M.Agr.
County Extension Director IV, Okeechobee County (1981).

PRICE THOMAS J.
Assistant Professor, RFUF (1966).

PRIDGEN, ILA R.
Assistant Professor, RFUF (1955).

PRIEM, EVIN S., B.S.E.E.
Associate Professor Emeritus of Electrical Engineering (1977).

PRINCE, VIVIAN C., M.S.L.S.
Associate Librarian and Associate Professor of Library Science and Head of Technical Processes (1962).

PRYOR, ROBERT SHEPERD, B.S.
County Extension Director III, Palm Beach County (1975).

PULLAN, VERONICA A.,
Instructor, Education, P.K. Yonge Laboratory School (1972).

PURSER, MARY M.
Associate Professor of Education (1976).

PURSER, STUART ROBERT, M.F.A.
Professor Emeritus of Art (1976).

PYLES, THOMAS, Ph.D. (Johns Hopkins University)
Professor Emeritus of English (1972).

RAPPENECKER, CASPAR, Ph D. (Cornell University)
Professor Emeritus of Geology (1976).

RAY, DELMAS DENNIS, Ph.D. (University of Florida), C.P.A. (Florida)
Professor Emeritus (1980).

RAYMOND, WALTER, B. Arch.
Professor Emeritus of Architecture (1974).

REAVES, CLARENCE W., M.S.A.
Professor Emeritus of Dairy Science (1971).

REED, JOHN CLIFFORD, M.E. (Ohio State University)
Professor Emeritus, Mechanical Engineering (1973).

REID, JOHN T., Ph D (Stanford University)
Associate Professor of Spanish (1974)

REITZ, J WAYNE, Ph.D. (University of Wisconsin)
President Emeritus (1967).

REYNOLDS, MABEL M.
Associate Librarian, Catalog, College of Libraries (1971).

RHINES, FREDERICK NIMS, Ph D. (Yale University)
Distinguished Service Professor Emeritus of Materials Science and Engineering (1978).

RHODEN, JAMES LLOYD, M.A. (University of Florida)
County Extension Director III (1972)

RICE, ROBERT J., M.A.
Assistant Professor of Journalism and Communications (1966).

RIDGE, MARGARET BURNS, M.L.S. (University of Pittsburgh)
Associate Librarian Emeritus, Catalog (1980).

RING, ALFRED A., Ph.D.
Professor Emeritus of Real Estate (1974).

ROSE, GILLIS NORMAN, B.S. (Murray State College, Kentucky)
Associate Professor Emeritus, Food and Resource Economics Department, IFAS (1976).

ROSENBERGER, STANLEY E., Ph.D. (University of Florida)
Professor Emeritus, Food and Resource Economics Department, IFAS (1975).

ROUSE, ALVIN HAMILTON, M.S.
Professor (Chemist), IFAS Agricultural Research and Educational Center, Lake Alfred (1977).

SADLER, SAMUEL GOULD, Ed.D. (University of Florida)
Associate Professor of Mathematics (1976).

SALT, ELLIS B., Ed.D. (New York University)
Professor Emeritus of Professional Physical Education (1967).

SANDEFUR, WAYNE THOMAS, H S.D .(University of Indiana)
Professor of Health Education (1979).

SANDERS, DORSEY A., D.V.M. (Kansas State College)
Professor Emeritus, IFAS (1968).

SASHOFF, STEPHEN P., M.S. (University of Pittsburgh)
Professor Emeritus of Electrical Engineering (1971).

SAYER, EARL MORROW, Ph.D. (University of Florida)
Associate Professor Emeritus of Physics (1974).

SCHIFFLI, RICHARD J., B.S.B.A. (University of Florida)
University Business Manager (1977).

SCHMERTMANN, JOHN HENRY, Ph.D. (Northwestern University)
Professor of Civil Engineering (1979).

SCHOONMAKER, LUCAS W., B.S.E.E.
Associate Professor Emeritus of Electrical Engineering

SCHUMACHER, A.S., Ph.D. (Western Reserve University)
Professor Emeritus of Clinical Psychology and Psychology (1976).

SCHWARTZ, FRANK LEROY, Ph.D. (University of Michigan)
Professor Emeritus, Mechanical Engineering (1972)

SCHWEYER, HERBERT ENGLISH, Ph.D. (Columbia University)
Professor Emeritus of Chemical Engineering (1976).

SCUDDER, DELTON LEWIS, Ph.D. (Yale University)
Professor Emeritus of Religion (1977).

SEABERG, LILLIAN MARIE, M.A.
Associate Librarian, Reference and Bibliography (1973).

SHARPE, MILES HERVEY, Ph.D. (Pennsylvania State University)
Professor, Editor, Editorial Deparment, IFAS (1977).

SHARPE, RALPH HAROLD, M.S. (Texas A&M University)
Professor Emeritus of Fruit Crops (Horticulturist), IFAS (1975)

SHECKLES, MARY W., Ed. (Columbia University)
Associate Professor Emeritus, Education (1972).

SHIELDS, MURRAY W., Ph.D. (University of Washington)
Professor Emeritus of Economics (1969).

SHOEMAKER, JAMES S., Ph.D. (University of Minnesota)
Professor of Food Science Emeritus and Horticulturist Emeritus, Agricultural Experiment Station (1966).

SHOWALTER, ROBERT KENNETH, M.S. (Purdue University)
Professor, Vegetable Crops (1981).

SILK, ERNEST S., M.S
Assistant Professor Emeritus of Physical Science (1973).

SIMANTON, WILLIAM ALDRICH, Ph.D (Iowa State University)
Professor Emeritus, Agricultural Research and Education Center, Lake Alfred, IFAS (1973).

SIMONS, JOSEPH H., Ph.D. (University of California)
Professor Emeritus of Chemical Engineering (1967)

SIMPSON, VICTORIA M., B.S.
Extension Agent III, Home Economics, Dade County (1979)

SITES, JOHN WILBUR, Ph D. (Ohio State University)
Professor (Horticulturist) and Dean for Research Emeritus, IFAS (1976).

SKELLETT, ALBERT M., Ph.D. (Princeton University)
Professor Emeritus of Electrical Engineering (1969)

SLAUGHTER, JOHN EIDELL, M.A. (University of Florida)
Assistant Professor of Social Sciences and History (1977).

SMALL, KENNETH
Director Emeritus, WRUF AM-FM (1974).

SMALLWOOD, MARK, M.S.E. (University of Florida)
Assistant Professor Emeritus of Electrical Engineering (1973).

SMITH, CARROLL N., Ph.D. (George Washington University)
Professor Emeritus of Entomology and Director, USDA Insect Attractants Behavior and Basic Biology Research Laboratory (1970).

SMITH, CHARLES B., Ph D. (University of Wisconsin)
Professor Emeritus of Mathematics (1968)

SMITH, DOROTHY MARY, M.Ed
Professor and Dean Emeritus, College of Nursing (1973).

SMITH, EDWARD FRANK, E.E. (University of Florida)
Associate Professor Emeritus of Electrical Engineering (1975).

SMITH, FREDERICK B., Ph.D (Iowa State University)
Professor of Soils Emeritus and Microbiologist Emeritus, Agricultural Experment Station (1967).

SMITH, JAMES BLANCHARD, B.S.A.
County Extension Director III, Osceola County (1981).

SMITH, JAMES HUNN, M.S., M.E.
Assistant Professor of Mechanical Engineering (1977).

SMITH, RALPH LESLIE, M.S. (Purdue University)
Associate Professor Emeritus (Field Crop Management), IFAS, AREC-Jay (1975).

SMITH, T. LYNN, Ph.D. (University of Minnesota)
Professor Emeritus of Sociology (1974).

SMITH, WILLIAM WARD
Associate Professor, IFAS, Entomology and Nematology (1972).

SMITH, WINSTON D., Ph.D. (Purdue University)
Professor Emeritus of Mechanical Engineering (1968).

SPACHE, GEORGE D., Ph.D. (Rutgers University)
Professor Emeritus of English and Education (1969).

SPENCER, ERNEST L., Ph D. (Rutgers University)
Soils Chemist Emeritus and Head Gulf Coast Experiment Station (1968).

SPIVEY, HERMAN EVERETT, Ph.D. (University of North Carolina)
Professor Emeritus of English (1974)

SPURLOCK, ALVIN HAROLD, M.S.A. (University of Florida)
Professor Emeritus, Food and Resource Economics Department, IFAS (1973).

STANDLEY, GERALD BRENT, Ph.D. (University of Buffalo)
Professor Emeritus of Philosophy (1981).

STANLEY, DENNIS K., M.A.E. (Pennsylvania State University)
Dean Emeritus of the College of Physical Education, Health, and Recreation and Professor of Professional Education (1976).

STANLEY, JAMES MIDDLETON,. M.S. (Virginia Polytechnical Institute)
Professor (Agricultural Engineer), USDA, IFAS (1977).

STARR, NATHAN C., Ph.D. (Harvard University)
Professor Emeritus of English and Humanities (1963).

STEARNS, THOMAS W., Ph.D. (University of Minnesota)
Professor Emeritus of Chemistry (1974).

STEPHENS, RICHARD B., LL.B. (University of Michigan)
Professor Emeritus of Law (1977).

STEVENS, BILLIE KNAPP, M.A.
Professor Emeritus of Professional Physical Education (1976)

STEVENS, GRACE A., M.A. (Teachers' College, Columbia University)
Instructor, RFUF (1950).

STEWART, ERNEST HAROLD, M.S. (Auburn University)
Associate Professor (Associate Soils Physicist), IFAS, USDA Agricultural Research Center, Ft Pierce (1978)

STOCKSTILL, ROY E., B.S.
Assistant Professor Emeritus, Engineering, Engineering Graphics.

STONE, WILLIARD E., Ph.D. (University of Pennsylvania) C.P.A (Pennsylvania)
Professor Emeritus of Accounting (1980).

STORER, MORRIS B., Ph D. (Harvard)
Professor Emeritus of Humanities (1973).

STOVER, LOREN H.
Assistant in Horticulture Emeritus, Watermelon and Grape Investigations Laboratory (1965)

STRIPLING, ROBERT OLIN, Ed D. (Columbia University)
Distinguished Service Professor Emeritus, Counselor Education

STRYKER, PHILIP DAVID, Ph.D. (Northwestern University)
Professor Emeritus of English (1976).

SVARLIEN, OSCAR, Ph.D. (University of North Carolina)
Professor Emeritus of Political Science (1976)

SWANSON, DANIEL C., Ph.D. (Cornell University)
Professor Emeritus of Physics (1971)

SWANSON, LEONARD E., D.V.M. (Ohio State University)
Professor Emeritus, IFAS (1967)

SWETT, MANETTE, M.A.
Instructor Emeritus, P.K. Yonge Laboratory School (1976)

SWINFORD, KENNETH R., Ph D. (University of Michigan)
Professor Emeritus (1975)

TAMS, MADGE PENTON, B.A. in L.S.
Librarian, Reference and Bibliography (1973).

TAYLOR, LAWRENCE DENNIS, M.Agr.
County Extension Director II, Holmes County (1979).

TELLER, MORTON HERMAN, M.A.E.
Assistant Professor Emeritus of Physics (1974).

TEW, ROY EDWARDS, Ph.D. (Ohio State University)
Professor of Speech (1981).

THOMASON, OLIVER BRUCE, Ph.D. (Pennsylvania State University)
Professor Emeritus of Rehabilitation Counseling (1975).

THOMPSON, BUFORD DALE, Ph.D. (University of Florida)
Professor, Vegetable Crops (1980).

THOMPSON, ETHEL P., B.S. (Murray State College)
Home Economics Agent II (1973).

THOMPSON, L.G., JR., Ph.D (Iowa State University)
Professor of Soil Science (1973)

THOMPSON, RALPH B., Ph.D. (University of Texas)
Professor of Marketing (1981).

THOMPSON, VICTOR A., Ph.D (Columbia University)
Graduate Research Professor of Political Science (1981).

THOMPSON, WILLIAM L., B.S.
Entomologist Emeritus, Citrus Station (1962).

THORNTON, GEORGE, Ph.D. (Ohio State University)
Professor Emeritus, IFAS (1971).

TIFFIN, WILLIAM TRUITT, M.S.M.E. (University of Missouri)
Professor Emeritus of Materials Science and Engineering (1973).

TILESTON, MARILYN DIETRICH, B.S.
Extension Home Economics Agent II, Osceola County (1981).

TISON, JEAN PIEPER, M.A.E. (University of Florida)
Assistant Professor in Education (1979).

TISSOT, ARCHIE N., Ph.D. (Ohio State University)
Entomologist Emeritus, Agricultural Experiment Station (1964).

TONER, RAYMOND J., M.A.
Assistant CLAS Director (1975).

TORRACA, PASQUALE MARIO
Professor Emeritus, Department of Architecture (1964).

TOWNSEND, KENNETH G., M.S. (University of Florida)
Associate in Entomology, IFAS (1978).

TOWNSEND, RUTH O., R.N. (St. Vincent's Hospital)
Senior Research Assistant Emeritus, IFAS (1969).

TOWNSEND, THOMAS RALPH, M.Agr.
County Extension Director III, Agriculture, Volusia County (1976).

TUNISON, PAUL B., M.Ed. (University of Florida)
Assistant Professor Emeritus of Physical Science (1973).

TURNER, GLOVER M., LL.B.
Head Emeritus, Department of Special Programs, Division of Continuing Education (1968).

TUTTLE, FRANK W., Ph.D. (University of Iowa)
Professor Emeritus of Economics (1967).

URONE, PAUL, Ph.D. (Ohio State University)
Professor Emeritus of Environmental Engineering Sciences (1981).

VALENTINE, MARION BULLARD, B.S.H.E.
Extension Home Economics Agent III, Lake County (1976).

VALK, MELVIN E., Ph.D (University of Wisconsin)
Professor Emeritus of German (1977).

VOGEL, JOSEPH F., Ph.D. (University of Florida)
Associate Professor of English (1979).

VOLK, GAYLORD MONROE, Ph.D. (University of Wisconsin)
Professor Emeritus (Soils Chemist), IFAS (1975).

VOSS, ELBERT, Ph.D. (University of Florida)
Professor Emeritus of Pharmacy (1973).

WAGLOW, IRVING FREDERICK, Ed.D. (New York University)
Professor of Physical Education (1980).

WALKER, BIRON H., M.A. (University of Florida)
Professor of English (1975).

WALKER, JAMES HENRY, M.S.A.
Extension Agent III, Soils & Agronomy, Escambia County (1976).

WALKER, ROBERT DIXON, JR., M.S.
Professor of Chemical Engineering (1982).

WALKER, SUE ROBERTS, B.S.
Associate Librarian, Acquisitions (1947-1976).

WALLACE, ALEXANDER P., Ph.D. (University of Virginia)
Graduate Research Professor Emeritus of Mathematics (1973).

WALLACE, HOWARD K., Ph.D. (University of Florida)
Professor Emeritus, Arts & Sciences, Zoology (1972).

WALLACE, MAXWELL JOSEPH, Ph.D. (Cornell University)
Associate Professor Emeritus of French (1975).

WALSH, HELEN, B.S. (Mississippi State University)
Associate in Obstetrics and Gynecology (1973).

WARMKE, HARRY EARL, Ph.D. (Stanford University)
Professor of Sociology and Psychiatry (1977).

WARREN, JESSIE ALMA, M.A. in L.S.
Assistant Professor Emeritus (Assistant Communications Specialist), IFAS (1976).

WATKINS, JOHN V., M.S.A.
Professor Emeritus of Ornamental Horticulture (1969).

WATKINS, MARSHALL OWEN, D.P.A. (Harvard University)
Dean Emeritus, Division of Continuing Education and Dean Emeritus for Extension Services, IFAS (1969).

WATKINS, MAUD
Instructor, RFUF.

WATSON, JAMES N., B.S. (University of Florida)
County Agent III (1975).

WATSON, MARY CALDWELL, B.S. in L.S.
Associate Librarian, Reference and Bibliography (1978).

WEBB, D. NEIL, B.S., B.A.
Associate Director, Division of Planning and Analysis (1978).

WEBER, IRVING L.
Professor Emeritus of Sociology (1971).

WEIMER, RAE O.
Professor and Dean Emeritus, College of Journalism and Communications (1968).

WENZEL, EVELYN L., Ed.D. (Columbia University)
Professor Emeritus of Education (1981).

WENZEL, FREDERICK WILLIAM, JR., Ph.D. (University of Massachusetts)
Professor Emeritus, Agricultural Research and Education Center, Lake Alfred, IFAS (1973).

WERSHOW, IRVING ROBERT, Ph.D. (Yale University)
Professor Emeritus of Spanish (1976).

WEST, STANLEY L., LL.B., B.S. in L.S.
Director of Libraries Emeritus and Professor of Library Science Emeritus (1967).

WHITE, BARBARA CRITTENDEN, M.A. (New York University)
Chairman and Professor, Department of Physical Therapy (1973).

WHITE, JOSEPH B., Ph.D. (Peabody College)
Dean Emeritus, Education (1972).

WHITE, WYLMA BLODGET, M.S.H.E.
Extension Home Economics Agent II, Hamilton County (1978).

WHITEHEAD, RICHARD HOLMES, B.A. (University of Florida)
Dean of Admissions and Records (1977).

WHITNER, BENJAMIN F., JR., B.S.A.
Assistant Horticulturist Emeritus, Central Florida Experimental Station (1967).

WICKS, LYLE L., M.S. (Cornell University)
Assistant Research Scientist and Agricultural Education Specialist (1979).

WILCOX, DONALD B., M.S.M.E. (Georgia Tech.)
Professor Emeritus of Industrial and Systems Engineering (1975).

WILGUS, ALVA C., Ph.D. (University of Wisconsin)
Professor Emeritus of History and Director Emeritus, Carribbean Conferences (1967).

WILLIAMS, DAVID T., Ph.D. (New York University)
Professor Emeritus of Engineering Sciences (1977).

WILLIAMS, HERMAN BARNES, B.M.E.
Associate Professor Emeritus, Engineering Graphics (1972).

WILLIAMS, IZOLA F., M.S. (University of Tennessee)
Associate Professor and Chairman (1973).

WILLIAMS, MARGARET RUTH, M.A. (Michigan State University)
Professor Emeritus of Medical Technology (1974).

WILLIAMS, MARJORIE LUDEMAN, B.S.H.E.
Extension Home Economics Agent III, Orange County (1952-1969).

WILLIAMSON, HERBERT DUFF, M.C.E.
Professor Emeritus of Building Construction (1975).

WILSON, JOHN W., D.Sc. (Harvard University)
Professor Emeritus, RFUF (1966).

WING, ALEXANDER HOLBROOK, Ph.D. (Columbia University)
Professor of Electrical Engineering (1976).

WINSOR, HERBERT WILLIAMS
Assistant Professor, IFAS, Soil Science (1972).

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